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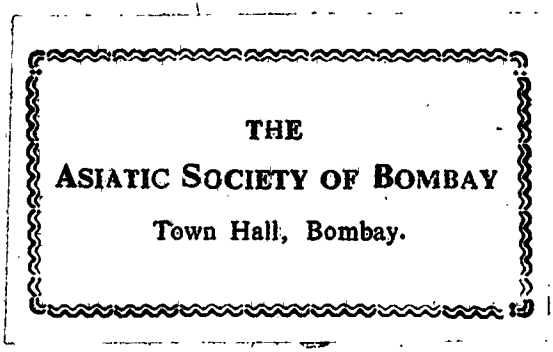

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A CATALOGUE

OF THE

LEPIDOPTEROUS INSECTS

IN

The Museum

OF

THE HON. EAST-INDIA COMPANY.

BY

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AND
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Assistant.

VOL. I.

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PREFACE.

It was my intention, as stated in the Introductory Remarks, to comprise in the first part of the Catalogue of the Lepidopterous Insects contained in the Museum of the East-India Company, the three first Tribes of this Order of Insects; but in arranging this work for publication, it became evident that our materials and the labour of preparing them for publication exceeded the original estimate of their extent: the full illustration of the species, the investigation and enumeration of the multifarious synonyms by which they are indicated by authors, together with the descriptions of a considerable number of new species, rendered a modification of our first plan advisable. I have therefore determined to limit the first part to the PAPILIONES and SPHINGES, reserving the BOMBYCES to the second part.

In submitting this Catalogue to the Entomological public, it is my first duty to acknowledge the very valuable and accommodating assistance which has been afforded to myself and my assistant by the officers of the Zoological Department of the British Museum, in our frequent researches, for the purpose of accurately comparing the subjects in the Company's with those contained in the British Museum. By this means, our species have been verified with a degree of accuracy otherwise unattainable; the synonyms carefully examined, and the character and distinctness of the new species fixed with all possible accuracy.

My best thanks are also due to A. Grote, Esq., of the Company's

Bengal civil service, who has placed at my disposal a very extensive series of drawings of the transformations of Lepidoptera, from continental India; the first portion, containing the Diurna, has already reached our Museum, and Plate XII. of illustrations consists almost entirely of Mr. Grote's contributions.

I have also to acknowledge thankfully the contribution of original drawings of transformations of Eastern Lepidoptera: *first*, by Edgar Leopold Layard, Esq., of drawings from Ceylon: *secondly*, by Lady Isabella Rose Gilbert, of drawings from continental India: *thirdly*, by Captain Mortimer Slater, of drawings from northern India: *fourthly*, the Entomological Society has also afforded access to the drawings made by Mrs. Hamilton.

The general plan according to which this work will be conducted is detailed in the Introductory Remarks. The indications afforded by the metamorphoses form the basis, and the subjects will be arranged, as far as possible, according to their affinities or most natural relations. This has been attempted in the first Tribe, the metamorphoses of which are illustrated on the first seven and the twelfth Plate, to which I refer the reader: but in a local collection of limited extent such an attempt must necessarily be imperfect.

The SPHINGES, forming the second Tribe, are limited exclusively to those Insects in which the chrysalis is naked, and deposited on the surface or under the earth, the character of which is illustrated by Plates VIII., IX., X., and XI. These form, in the twelfth edition of the "Systema Naturæ," the first, second, and part of the third section of the genus Sphinx, as defined by Linnæus. The remainder of this genus, namely, part of the third and fourth sections, consisting chiefly of the genera *Ægeria* and *Zygœna*, belong with more propriety to the BOMBYCES, to which they are allied both in their transformations and in the perfect insect, the chrysalis being enveloped in a silky fabric or cocoon, in the manner of the *Bombyces*.

Thus restricted, the SPHINGES are divided into five Stirpes,

which, with the exception of the first Stirps, the metamorphosis of which is as yet unknown, are named from the form of the larvæ; viz., the *second* Stirps *Elongatæ*, the *third* Stirps *Acrocephalæ*, the *fourth* Stirps *Amblocephalæ*, and the *fifth* Stirps *Ophthalmicæ*. These are described in detail in pages 258–9. The special character of these divisions, exhibited in the metamorphosis, is strikingly confirmed by the perfect Insect, which, in each of these Stirpes, has a peculiarity obvious to every observer.

In conclusion, it is my duty to state that the descriptive part of this Catalogue has been performed by Mr. F. Moore, the Assistant in the Company's Museum; and the experienced entomologist will recognize the skill and accuracy of Mr. J. O. Westwood in the preparation of the Illustrations.

THOMAS HORSFIELD.

December 7th, 1857.

INTRODUCTORY REMARKS.

THE ZOOLOGICAL MUSEUM of the East-India Company consists of specimens in all departments of the Science, from the Company's Oriental possessions, contributed by public servants who have been attached as Naturalists to Missions and Deputations on behalf of the Indian Government, or by gentlemen of the civil and military services, as presents to the Honourable Court of Directors.

Collections and Contributions in the particular branch of ENTOMOLOGY, have been received in the Museum in the following chronological order:—

1802. *Eudelin de Joinville.*—A series of Insects from Ceylon, chiefly Lepidoptera, presented to the Indian Government, on the transfer of Ceylon to the British Crown.

1813 to 1819. *Thomas Horsfield, M.D.*—The Entomological Collections made in Java, during the possession of that island by Britain; consisting of a large series of Insects in all Orders, accompanied by Drawings of Lepidopterous Insects in all the stages of their existence.

1823. *George Finlayson.*—Insects collected during the Mission of John Crawford, Esq., to Siam and Hué, the capital of Cochin-China.

1829. *Madras Government.*—Collections made by the Company's Naturalist at Fort St. George.

1831. *Colonel W. H. Sykes.*—The Collections—consisting of a large series of Insects in all Orders, besides Birds, Mammalia, &c.—made during the Statistical Survey of the Dukhun.

1840. *Major R. B. Pemberton.*—Insects collected during his Mission to Bootan in 1837-38.

1841. *The Asiatic Society of Bengal.*—A series of Insects in all Orders.

John McClelland, Esq.—Specimens from Assam.

1842. *J. T. Pearson, Esq.*—Specimens from Darjeeling, in all Orders.

The Bengal Government.—The Entomological Collection made in Chusan by Theodore Cantor, M.D., acting as Naturalist during the Chinese Expedition.

1843. *The Bombay Government.*—The Entomological Collections made during the mission of Sir W. C. Harris to Abyssinia.

1844. *The Asiatic Society of Bengal.*—Insects in all Orders.

1849 to 1856. *Ezra T. Downes, Esq., Deputy Assay-master, Bombay Mint.*—Large Collections of Insects in all Orders (accompanied by Notes), received by several despatches.

1849. *Colonel F. Buckley.*—A large Collection of Insects in all Orders, from the Himalayas, &c.

Brigadier-General J. B. Hearsey.—A small Series of Lepidoptera, received through J. O. Westwood, Esq.

1850. *Colonel W. H. Sykes.*—A Series of Insects preserved in spirit.

Captain Richard Strachey.—A Series of Insects from Ladakh.

1853. *B. H. Hodgson, Esq.*—A Series of Insects from the central regions of Nepal.

1854. *Theodore Cantor, M.D.*—A Collection of Insects in all Orders, from Penang.

1856. *J. C. Bowring, Esq.*—A Series of Insects from North China.

Messrs. H. & R. Schlagintweit.—An extensive Collection of Insects in all Orders, from Darjeeling, &c.

The Bengal Government.—The Collection of Insects transmitted for exhibition at the Exposition Universelle at Paris in 1855.

In the Catalogue which is now offered to the public under the auspices of the Honourable Court of Directors of the East-India Company, it is intended to describe the Lepidopterous Insects contained in the Company's Museum. The Materials for this Work have been enumerated above in the chronological order of their contribution.

When I commenced a Systematic arrangement of the earlier Collections in 1820, soon after my arrival in England, they consisted, with the exception of a small number of specimens from Ceylon, exclusively of the Lepidopterous Insects from Java, which

were collected by me, and deposited in the Museum between the years 1813 and 1819. Since that period, collections of various extent have been contributed from the continental possessions of the Company in the East, and from China.

In the year 1820, the Entomological Cabinet was provisionally arranged according to the plan of Dr. Leach, as given in Samoelle's Entomologists' useful Compendium. My attention having been devoted to other branches of Zoology, chiefly Mammalia and Birds, the Insects remained in the state of their first arrangement until the year 1825, when William Sharp Macleay, Esq., commenced, in the "Annulosa Javanica," a description of the Coleopterous Insects in the Museum.

Some time after this, an attempt was made to give a description of the Lepidopterous Insects in a work entitled, "Descriptive Catalogue of the Lepidopterous Insects in the Company's Museum." This work having been undertaken on a plan which could not insure public support, was discontinued after the publication of the two first numbers, in 1828 and 1829.

In undertaking that work, the systematic arrangement to be adopted was the first consideration; and accordingly, the works of Linnæus, Latreille, Fabricius, Duméril, and other systematic Entomologists, were carefully studied, in order to direct me to the most natural method of arranging my Collection.

While thus engaged, my attention was almost accidentally called to a comparatively obscure work, rarely consulted by English Entomologists (except as an Index of Species described), which was published in Germany towards the end of the last century, entitled, "Systematisches Verzeichniss der Schmetterlinge der Wienergegend, heraus-gegeben von einigen Lehrern am K. K.—THERESIANUM;" which last word I found designated Messrs. Denis and Schieffermüller, two distinguished officers of the court of Vienna, known in Germany from their charge in the Imperial Academy, by the name of "THERESIANER." In this work I discovered, to my great delight, an attempt to unite Lepidopterous Insects into groups, founded on the various stages of their existence, from the Caterpillar to the perfect Insect, or on their transformations. The maxim of the authors is, "*Ein Aug* auf den Schmetterling, das andere Aug die Raupe" (one eye to the Butterfly, another to the Caterpillar). This maxim gave a new direction to my inquiries; it superseded

any further examination of the systems above mentioned, *so far as relates to system and classification*, these works being founded almost exclusively on a single character, and accordingly artificial, while it greatly confirmed the views which had directed my researches in Java, as will appear in the sequel.

Although the Wiener Verzeichniss has been called a system, it can only be considered as an accumulation of materials of the metamorphoses of European Lepidoptera, to serve for comparison by Entomologists in other countries. The authors have not attempted a new Classification of the whole Order of Lepidoptera on their own principles. In the large divisions they adopt the Genera of Linnæus, although they have transposed the Genera of that author, commencing with Sphinx Phalæna, and terminating with Papilio; the cause of this transposition is not explained. Mr. Westwood, in his "Introduction to the Modern Classification of Insects," gives a summary of the subdivisions and families into which the Wiener Verzeichniss is divided, with the remark, that almost every one of the divisions constitutes a modern genus. This work, although little known or regarded in England and France, is held in high estimation in Germany, where, at the period of its publication, it formed an epoch among cultivators of Entomology. Not many years after its first appearance, a new edition was required, which was undertaken on a somewhat reduced scale by the celebrated Illiger, who describes it as one of the most acute and instructive works on Entomology ever published; indeed, in its literary and philosophical character it may be ranked with the most perfect works on Natural Science extant at the time of its publication. It takes a most comprehensive view of Entomology in all its departments; it notices in detail all the authors and systems published at its appearance, near the end of the last century; and the research and learning displayed in its compilation are highly creditable to the authors. After stating the design of their work, the authors describe, in a manner perhaps more comprehensive and complete than is done in any other entomological treatise, the history and peculiarities of Lepidopterous Insects, from the egg to the Butterfly, interspersed with many original remarks, founded on their own observation. The description of the families and of the individual larvæ and chrysalides are given with the greatest minuteness. A series of notes and quotations is carried through the whole work,

furnishing the student with an abstract of all that has been recorded by the most eminent writers at the period above mentioned. The sixth and seventh sections contain many ingenious details and suggestions respecting the relative number of Lepidopterous Insects and Plants found in a given district or country; and the authors endeavour to show that the number of both Butterflies and Plants will be found nearly equal in the Fauna and Flora of the countries that have been carefully examined. In examining the various systems extant at their time, they discuss the advantages and defects of each, with a view to prove that further researches were required to supply the vacancies remaining, in the attempt to form a natural system of arrangement, of which they had a more correct notion than most other naturalists of their day.

These sections also are invaluable in directing the pursuits of young Entomologists to the importance of collecting Lepidoptera in the various stages of their existence, both with the view to obtain perfect specimens and a complete history of the separate species. The style is colloquial, animated, and classical, and illustrated with numerous appropriate quotations in Latin, French, and English. An acquaintance with this work during my abode in Java would have enabled and directed me to carry on my researches in Entomology to a greater extent than I have accomplished.

In the systematic structure of this Catalogue, I shall be guided, so far as my materials afford the means, by the character in which the subjects manifest themselves in their transformations from the first state of their existence to their perfect development, or, according to the maxim of the authors of the Wiener Verzeichniss, from the larva to the imago; endeavouring in all cases to discover the most natural arrangement in which they can be disposed.

It is obvious that a complete arrangement of the whole Order of Lepidopterous Insects on this principle cannot be attempted at the present period, although considerable materials have already been contributed towards this object from many parts of the world; among these, the most important are contained in the following works:—

Hübner (*Jacob*).—Geschichte Europæische Schmetterlinge, quammelt van J. H.

Abbott and Smith.—The History of the rarer Lepidopterous Insects of Georgia.

Cramer (*Pierre*).—Papillons Exotiques, etc. The Supplemental Volume by Stoll.

Merian (*Madame*).—Métamorphoses Insect. Surinamens.

Harris.—The Aurelian.

Boisduval and Léconte.—Hist. Générale et Iconogr. Lépidopt. et Chenilles de l'Amér. Sept.

Poey.—Centurie de Lépidopt. de l'Isle de Cuba.

Sepp.—Hist. Nat. de Papillons de Surinam.

But many extensive regions are as yet altogether unexplored, and a complete System of Lepidopterous Insects founded on their metamorphoses is reserved for some future Entomologist provided with more ample materials than have as yet been brought together: my only object in the present work is to contribute the result of my labours in the Eastern Islands.

Deeply impressed with the importance and necessity of an accurate knowledge of Lepidoptera in all stages of their existence, I devoted, during several successive seasons, all the means at my command to the investigation of Javanese Lepidoptera; and it may be not out of place here to give a brief extract from the Descriptive Catalogue above mentioned, of the method pursued by me. "I "lived at this time at Surakarta, a province in the interior, be- "longing to the native princes. I was amply provided with every "convenience and facility for preserving what I had collected. "Several draughtsmen had likewise been trained, under my super- "intendence, for botanical delineations; and the skill they acquired "in those, soon fitted them for the annulose department. I was, "therefore, enabled to enter upon a history of the Metamorphoses "of Javanese Lepidoptera, a design which had long engaged my "anxious solicitude. Although I did not, at this period, so fully "conceive the paramount necessity of an acquaintance with the "Metamorphoses of Lepidoptera, towards the establishment of a "natural arrangement, as I have been led to do in later periods, "yet I was so strongly impressed with its essential importance in "attempting a complete history of Insects, that I commenced with "a fixed determination to prosecute the inquiry with unremitted "industry and zeal, to collect all the larvæ of Lepidopterous Insects "which I might possibly obtain, and to trace them through the

"various periods of their existence. With this view, I fitted up a "large apartment adjoining my residence with breeding-cages and "receptacles for chrysalides. At the commencement of the rainy "season, the period when, in tropical climates, the foliage of "vegetables is renewed, I daily went out in search of caterpillars, "accompanied by the most intelligent of my native assistants. The "caterpillars thus collected were placed in separate breeding-cages, "and several of the assistants were instructed to provide daily, at "regular periods, the food the individuals required, and to secure "the cleanliness of the cages. As soon as the caterpillars were "approaching to perfection, a drawing was made of them. The "same individual which had been submitted to the draughtsman "was then separately confined, watched with the most diligent "care, and as soon as it had passed into the state of a chrysalis, "again made the object of the pencil. A determinate number was "carefully attached to the drawing and to the cage of the chrysalis. "As soon as the perfect insect had appeared and expanded its "wings, it was secured, set, and numbered, in accordance with the "larva and chrysalis. During this period, every possible solicitude "was employed to prevent mistakes. The original series, consisting "of the perfect insects and the chrysalides obtained by this mode "of proceeding, and numbered in accordance with the collection of "drawings made at the same time, is now deposited in the Museum "of the Honourable East-India Company, and affords an authentic "document of the accuracy of the details regarding the metamor-"phoses of Javanese Lepidoptera, which will be offered in the "course of this work."

By the method thus described, I obtained the complete history of the transformations of nearly 200 species of Javanese Lepidoptera. The collection varies considerably in the principal divisions of this Order. In the first great division or Tribe, comprising the Diurnal Butterflies, or Papiliones, I have been most successful, and in this tribe my materials are sufficiently extensive to illustrate the minor Groups or Stirpes into which it has been subdivided; and in these are included also a large proportion of the Genera found in the tropical countries of the East.

Having above detailed the advantages I derived from an acquaintance with the Wiener Verzeichniss, so far as relates to the smaller groups of Lepidoptera, and the association of them into

Natural Genera on the principle employed by Messrs. Denis and Schieffermüller, I have now to refer to another work which opened a new view to my study of Zoology generally, and especially of Entomology,—the "Horæ Entomologicæ" of William Sharp Macleay, Esq.; and I consider it a fortunate coincidence that this work made its appearance about the period of my arrival in England, and that my attention was early directed to it,—the first part having been published in 1819, the second in 1821,—while I was engaged on the provisional arrangement of the Lepidopterous Insects in the Company's Museum.

In this work, Mr. Macleay has sketched a plan, according to which the whole animal kingdom forms one natural group. In explanation of his system, he brings into one view almost all that is recorded by Zoological authors, both ancient and modern, in order to illustrate his theory. It is, in fact, an epitome of Zoology, and the study of it will greatly benefit the Zoologist and the Entomologist, whether he adopts or rejects his views. It is the production of an original mind, and may be justly considered as one of the most important contributions of late years to the Philosophy of Natural History.

Without attempting an analysis of the work, I shall briefly state those points which have a reference to this Catalogue.

First. The sentiment which pervades this work, impressing in the strongest manner on the student and the cultivator of Natural History, the paramount importance of the maxim of Linnæus: METHODUS NATURALIS EST ULTIMUS FINIS BOTANICES.

Secondly. The clearness with which relations of *Affinity* and *Analogy* observable in different groups of subjects of Natural History, both animal and vegetable, are propounded and explained. This law was discovered by Mr. Macleay in 1819, in studying Lamellicorn Insects; and was subsequently more fully discussed and elucidated in an Essay contained in the fourteenth volume of the Transactions of the Linnæan Society,* chiefly with reference to a similar discovery made almost simultaneously by Elias Fries; Griphiswaldiæ, 1821, but without any communication or inter-

* Entitled, "Remarks on the Identity of certain General Laws which have been lately observed to regulate the Natural Distribution of Insects and Fungi." By William Sharp Macleay, Esq.

change of opinions of the respective authors, in a group of the lower vegetables, *Fungi*, and which is made public in a work entitled "Systema Mycologicum, sistens Fungorum Ordines, Genera, et Species."*

Thirdly. The exposition of the law, that the series of affinities in groups of the animal kingdom is progressive, and that it returns into itself; and thus the groups form circles.

Fourthly. That the primary groups of those departments of the animal kingdom which have hitherto been investigated have been ascertained to be limited to five.

The laws enumerated in the third and fourth points have been discovered to prevail in *Mammalia* by Dr. J. E. Gray, detailed in the Annals of Philosophy, New Series, No. LIX., for November, 1823; in *Birds*, by N. A. Vigors, Esq., and have been detailed with great clearness in an admirable Essay contained in the fourteenth volume of the Transactions of the Linnæan Society, entitled, "Observations on the Natural Affinities that connect the Orders and Families of Birds;" and by Dr. J. J. Kaup, of Darmstadt, in an excellent monograph of *Falconidæ*, the subdivisions of which agree with those of N. A. Vigors, Esq., independent of any mutual communication of the respective authors; in *Crustacea*, by Dr. De Haan, of Leyden, who, in the Introduction of his work has the following passage:—"Secuti sumus methodum circulorum quinariam ab viro ornato Macleay in Horis Entomologicis expositum, qua quippe via totum naturæ schema aptius exponi et affinitates facilius indicari nobis visæ sunt."†—*Præmissa* IX.

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* Referring to Mr. Macleay's paper, contained in the Transactions of the Linnæan Society, here cited, it may be proper in this place to give the substance of the proposition of Fries in his own words:—"*Affinia* igitur sunt quæ in eadem serie sequuntur, et in se invicem transire videntur. Hæc in ulterioribus congruunt, sed in citerioribus ratio[illegible]bus differunt. *Analoga* autem dicimus quæ in diversis seriebus locis parallelis posita sunt, et sibi invicem correspondent."

It is remarkable, that a similar law was noticed by Agardh, which in his *Aphorismi Botanici* is described in the following words:—"Analogia quædam et similitudo in diversis seriebus vegetabilium interdum cernatur, quasi progressa esset natura ad perfectionem per eosdem gradus sed diversâ viâ."

† *In the second chapter*, De ratione, qua quinque sectiones Crustaceorum inter se ligantur, *he has the following remarks*:—"Plures Botanici et Zoologi in eo conveniunt et vegetabilia et animalia non tantum plures series distinctas

Fifthly. That each group in a circle is analogically represented by the corresponding group in other circles.

Sixthly. The arrangement which Mr. Macleay has made of a class of annulose animals, designated Ametabola in his System; and its application in the present work.*

Ametabola.—This Class, when first defined and introduced into the system by Dr. Leach, consisted of two divisions only,—Thysanura and Anoplura; to these Mr. Macleay has added the two divisions of Myriapoda, namely Chilopoda and Chilognatha, and also Vermes, as defined by him, Horæ Entom. p. 286. The Class, therefore, consists of the following Orders:—Vermes, Anoplura, Thysanura, Chilopoda, and Chilognatha.

The researches and inquiries which led Mr. Macleay to this arrangement, are detailed in the same work, in pp. 286-7, &c. They are founded on a very careful study of the character of these animals, with reference especially to recent accurate analyses and descriptions of Messrs. Savigny, Latreille, and Lamarck, and they afford a favourable example of the method pursued by Mr. Macleay in his inquiries.

I have now, very briefly, to state the application which Mr. Macleay has made of the several divisions of the class Ametabola, in an analogical point of view, to the larvæ of Coleopterous Insects.

In the seventh chapter, treating of the tribes of Mandibulata, he gives an explanation, of which the following is the substance.—"When reviewing the Coleoptera with a view to a natural division, I first threw the whole into those great natural groups which occurred to my sight, and, prosecuting my inquiries, at length, when

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formare, quæ analogis jungantur, sed invicem connexa esse, quasi annulum annulo. Naturam non facere saltum, est adagium Linnæanum; multum autem abest, huncce nexum in omnibus partibus esse indicatum. Illud vero vinculum extricare videtur scopus, in quem omnes perquisitiones in Historia Naturali debeant attendere, ut inde pateat in creatis et consensus et ordo et sapientia, si talis præ humanis excellentia humanis verbis exprimi possit. In hoc propositum Cl. Macleay *Horas Entomologicas* conscripsit; eximio hocce in opere invenimus filum Ariadneum, quo ulterius persequendo, viam illo in labyrintho invenire possumus. Formas nempe in circulis in se redeuntibus disponere conatus est; circularis illa dispositio nobis videtur naturæ maxime conveniens."

* Mr. Macleay's four other primary divisions of the Annulosa being the Crustacea, Arachnida, Mandibulated, and Hanstellated insects.

thinking of their *larvæ*, I discovered that each of my groups, as far as my knowledge of them went, had a peculiar character,"— which he then briefly describes on p. 422.

Referring to the detailed description of the larvæ of Coleopterous Insects which he has detected, and arranged in five groups, it is sufficient for my present purpose to state, that the *first* group, examples of which are Carabus and Dytiscus, are represented analogically by the Chilopodiform Ametabola; the *second* type, of which Scarabæus is an example, is represented analogically by the Chilognathiform Ametabola. The *third* type, of which Curculio and Cerambyx are examples, is represented analogically by the Vermiform Ametabola. The *fourth* type, of which Coccinella and Chrysomela are examples, is represented analogically by the Anopluriform Ametabola; and the *fifth* type, an example of which is Meloe, is represented by the Thysanuriform Ametabola.*

To guard against any misapprehension of the characters of the relations here pointed out, Mr. Macleay gives the following caution (see H. E. p. 423): "The distinction, however, between affinity and analogy, is perhaps nowhere in Entomology more necessary to be attended to than here; since, in terming larvæ *Chilognathiformes* or *Chilopodiformes*, it is not meant that they are *Scolopendræ* or *Juli*, or even near to them in affinity, but only that they are so constructed that certain analogical circumstances attending them strongly remind us of these *Ametabola*."

Considering, therefore, the determination to which Mr. Macleay has arrived regarding the primary groups of Coleoptera, and their analogical relations with certain divisions of Ametabola, according to which the whole Order resolves itself into five natural divisions, I submitted the entire series of illustrations of the Metamorphoses of Indian Lepidoptera contained in the Company's Museum to a rigid examination; reserving the indications afforded by this examination, so far as regards the whole Order, to a future stage of this Catalogue; it is sufficient for my present purpose to state, that in the first Tribe of this Order, the Diurnal Lepidoptera, or Papiliones, I discovered five decided types of form, each of which

* To illustrate the five types of form observed in the first Tribe of Lepidoptera, the Papiliones, and the corresponding analogies with the Ametabola, I have prepared the accompanying plate exhibiting the larva and the analogous Ametabola.

manifested a clear analogy to a corresponding division of Ametabola; namely,—

First. A *larva* of a linear oblong form, attenuated at both ends, depressed or cylindrico-convex, of a sluggish appearance, with short and scarcely perceptible feet, distinctly marked above with transverse striæ. A *pupa* nearly smooth, or with comparatively few protuberances, very obtuse at the anterior extremity, attached by the abdomen, braced, vertically suspended with the head upwards or tending forwards in a horizontal direction. Representing the *Vermiform* Ametabola.

Secondly. A *larva* of a cylindrical form, generally swelled or thickened at the fourth or fifth section of the body, attenuated towards the head and posterior extremity; in the typical genera naked, or covered with short, obtuse, fleshy protuberances; in the extreme genera, at the boundary of the neighbouring groups, covered with a close silky down, or with short scattered hair, most remarkably distinguished by a furcula or forked tentaculum, situated between the head and neck, which may be drawn back or thrust forward at pleasure. *Pupa* angulated and mostly tuberculated; in the typical genera, and in those at the confines of the first group, attached by the posterior extremity, braced, and vertically suspended with the head upwards; in the genera approaching the third stirps, perpendicularly suspended, according to the habits of that stirps. Representing the *Chilognathiform* or *Juliform* Ametabola.

Thirdly. A cylindrical *larva*, strikingly characterized by its terrific or threatening aspect, being covered with sharp, rigid, erect processes, often of great length, but diversified in the different subdivisions, arranged in regular longitudinal lines along the body of the larva, and beset with numerous diverging spines disposed in a verticillate manner. The attitude of the *pupa* is the reverse of that of the typical forms in the two former divisions: it is attached by the abdomen, while the head is directed perpendicularly downwards; in form it is greatly diversified. Representing the *Chilopodiform* or *Scolopendriform* Ametabola.

Fourthly. A lengthened cylindrical striated *larva*, somewhat smaller at each end, apparently of an agile habit, naked, or covered with a slight down, having a head of moderate size, armed with two erect spines, or provided with a movable shield, often of great

size, and beset with erect hornlike processes: but the chief characteristic of this division consists in two very strongly marked lengthened filiform or spinous appendages at the extremity of the abdomen. The *pupa* is attached by the tail and suspended perpendicularly, as in the last division; its head is in general terminated by two points of various form and length. Representing the *Thysanuriform* Ametabola.

Fifthly. A cylindrical *larva*, nearly naked, with a very large head, often globular, and attached to the body by a long neck; characteristically distinguished from the other subdivisions by its bluntness and abrupt termination behind; the *pupa* being covered by a convoluted leaf. Representing the *Anopluriform* Ametabola.

These separate groups, agreeably to the plan of Mr. Macleay, in the "Annulosa Javanica," will be denominated stirpes.

Tabular Review of the Larvæ and their Analogies above enumerated.

1st Division, named according to the form of the larva		Vermiform.
2nd	Ditto	Juliform *or* Chilognathiform.
3rd	Ditto	Scolopendriform *or* Chilopodiform.
4th	Ditto	Thysanuriform.
5th	Ditto	Anopluriform.

To answer the question which may arise, whether, in applying to one *Tribe* of Lepidoptera—the Papiliones—the same principle which Mr. Macleay has applied to the whole *Order* of Coleoptera, I have not departed from his scheme? I offer the following considerations:—Mr. Macleay has divided the whole Animal Kingdom into quinary groups, which are again subdivided into groups of consecutively descending value: thus, the Animal Kingdom is divided in descending order into Sub-kingdom, Class, Order, Tribe, and Stirps. This arrangement is fully exemplified in the Diagram of the whole Animal Kingdom, on page 318 of the "Horæ Entomologicæ," and in that of the sub-kingdom the "Annulosa," on page 390 of the same work; to which I refer the reader. The same law of groups of consecutively minor value has been observed to prevail in Birds by N. A. Vigors, Esq., and in Crustacea by Dr. De Haan, of Leyden, who thus expresses himself:—"Methodum quinariam, cujus in hac invertebratorum classi specimen Entomologorum judicio submittimus, in aliis usque ad familias, in aliis

usque ad genera persecuti sumus. Ita, secundum opus laudatum, Animalia in quinque subregna; quinque classes dividuntur. Porro, secundum nostras observationes, Crustacea continent quinque Ordines, quinque Tribus, quinque Familias, quinque Genera."

In the foregoing introductory remarks, I have endeavoured to detail the principles which will direct me in the compilation of this Catalogue. The indications afforded by the several individuals described in all stages of their existence, will be carefully studied and applied. I have acknowledged the advantage derived from the examination of the "Horæ Entomologicæ" of Mr. Macleay, and especially from his remark, that "*considerations founded on the metamorphoses must ultimately produce the most natural plan of entomological arrangement.*" But I desire that it may be distinctly understood, that it is not my purpose to give an illustration of his particular system; my object being to contribute a fragment towards a future enterprise of a more qualified entomologist. In a collection from a territory of limited geographical extent, large chasms remain to be supplied from more extensive localities. In the construction of my groups, I shall endeavour to discover the prominent forms, and to arrange them according to their affinities; and where their analogies to the Ametabola are evident, I shall point them out; but I shall not attempt to form them strictly on the model given by Mr. Macleay, or to pursue their division into typical and aberrant forms.

My reference to the works of Mr. Vigors on Birds, and to Dr. De Haan on Crustacea, is to afford a confirmation of Mr. Macleay's views, but not as an indication of my intention to pursue the subject in this Catalogue, to the same extent to which they have pursued it. The most natural division of the order of Lepidoptera, which may result from my examination, is reserved for a future stage of this work; in the first part I propose to describe the Papiliones, Sphinges, and Bombyces.

THOMAS HORSFIELD.

Library, East-India House,
February 11th, 1857.

CATALOGUE

OF

LEPIDOPTEROUS INSECTS.

ERRATA.

Vol. I. Appendix, p. 1, No. 81, *Myrina Triopas*, for figs. 5, 5*a*, read 7, 7*a*.

„ Appendix, p. 1, No. 93, *Anops Thetys*, for figs. 7, 7*a*, read 5, 5*a*.

SYSTEMATIC LIST

OF THE

GENERA AND SPECIES

OF

LEPIDOPTEROUS INSECTS

CONTAINED IN THE

MUSEUM OF THE EAST-INDIA COMPANY.

Class INSECTA.

Order LEPIDOPTERA.

Tribe I. PAPILIONES.

Stirps I., with VERMIFORM Larvæ.

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— Horsfieldi, *Moore*..... 19

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— Puspa, *Horsf.* 20
— Laius, *Cramer Sp.*..... 21

Genus LYCÆNA, *Fabricius.*

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— Amyntas, *Fabr. Sp.* 22
— Aratus, *Cramer Sp.* 22
— Parrhasius, *Fabr. Sp.* ... 22
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— Kandarpa, *Horsf.*..... 23
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— Elpis, *Godart Sp.*..... 24
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— Alexis, *Stoll Sp.* 25
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— Xenophon, *Fabr. Sp.* ... 31
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— Isocrates, *Fabr. Sp.* 33
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CATALOGUE

OF

THE LEPIDOPTEROUS INSECTS

IN THE

Museum of the East-India Company.

Class INSECTA.

Div. I. INSECTA HAUSTELLATA.

INSECTA HAUSTELLATA (*Clairville*). *Stephens, Ill. Brit. Ent. vol.* I. *p.* 1 (1828).

Order LEPIDOPTERA.

LEPIDOPTERA, *Linnæus, Syst. Nat.* (1748).

GLOSSATA, *Fabricius, Syst. Entom.* (1775).

LEPIDIOPTERA, *Clairville.*

LÉPIDOPTÈRES, *Duméril, Consid. Gén. des Ins. p.* 134 (1823). *Boisduval, Spéc. Gén. Lép.* I. *p.* 162 (1836).

Tribe I. PAPILIONES.

LEPIDOPTERA DIURNA, *Latreille, Gen.* IV. *p.* 186 (1809). *Stephens. G. R. Gray.*

RHOPALOCÈRES, *Duméril, Consid. Gén. des Ins. p.* 222 (1823). *Boisduval, Spéc. Gén. Lép.* I. *p.* 162 (1836).

PAPILIONIDÆ, *Horsfield, Cat. Lep. Mus. E.I.C. pp.* 20, 57 (1828).

PAPILIONIDES, *Boisduval, Hist. Gén. des Lép. Amér. Sep. p.* 2 (1829).

RHOPALOCERA, *Stainton, Ins. Brit. Lepid. Tineina, p.* 2 (1854); *et Manual Brit. Butt. p.* 10 (1856). *Walker, Cat. Lep. Brit. Mus. pt.* I. *Lep. Het. p.* 1 (1854).

SUCCINCTI, *Boisduval, Spéc. Gén. Lép.* I. *pp.* 162, 171 (1836).

SUCCINCTÆ, *Boisduval, Index Méth. p.* 1 (1840).

Stirps I., with VERMIFORM Larvæ.

VERMIFORM, *Horsfield, Cat. Lep. Mus. E.I.C. pp.* 21, 38, 64 (1828).

LYCÆNIDÆ, *Leach, Edinb. Encyclop.* IX. *p.* 129 (1815). *Stephens. Doubleday. Westwood. Stainton* (*Manual*), *pp.* 10, 40.

POLYOMMATIDÆ, *Swainson, Phil. Mag.* I. *p.* 187 (1827).

POLYOMMATES, *Boisduval, Hist. Gén. des Lép. Amér. Sep. p.* 2 (1829).

LYCÆNIDES, *Boisduval, Icon.* I. (1832); id. *Sp. Gén. Lép.* I. *p.* 164 (1836); id. *Index Méth. p.* 8 (1840).

PLEBEI RURALES, *Linnæus.*

POLYOPHTHALMI, *Aldrovandus.*

Genus MILETUS, *Hübner.*

MILETUS, *Hübner, Verz. bek. Schmett.* (1816). *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 502.

SYMETHA, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 59, *t.* 2, *f.* 2 (1828).

GERYDUS, *Boisduval, Sp. Gén. Lép. p.* 6 (1836).

1. *MILETUS SYMETHUS, Cramer Sp.*

♀ Papilio Symethus, *Cramer, Pap. Exot.* II. *t.* 149, *f. B.C.* (1779). *Stoll, Suppl. à Cramer's Pap.* I. *t.* 37, *f.* 3, 3*c*. *Fabricius, Mant. Ins.* II. *p.* 69.

Miletus Symethus, *Hübner, Verz. bek. Schmett. Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 503, *No.* 1.

Polyommatus Symethus, *Godart, Enc. Méth.* IX. *p.* 675.

♀ Gerydus Symethus, *Boisduval, Sp. Gén. Lép. p.* 6, *t.* 23, *f.* 2. *Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 57.

♀ Symetha Pandu, *Horsfield, Cat. Lep. Mus. E.I.C. t.* 2, *f.* 2, 2*a* (1828).

? Symæthus Leos, *Guérin, Voy. Coquille Ins. t.* 18, *f.* 8.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

The characters of this genus are peculiar, and its situation in a Natural Series remains for future investigation. Its chief peculiarity consists in the character of its legs, of which Mr. Westwood gives the following description: "Legs rather short, slender, scaly, compressed. The tarsi in all the feet, with the basal joint, remarkably

elongated, widened, and quite compressed; the tarsus in the fore-legs of the male being exarticulate, and as long as the femur and tibia united; second, third, and fourth joints in the four hind-legs very short, terminal joint small, subovate, notched at its obliquely-truncated extremity, with extremely minute ungues."

2. *MILETUS BOISDUVALI, Moore* (*Plate* 1*a*, *fig.* 1).

M. Boisduvali, n. sp.—UPPER-SIDE brown; *fore-wing* with a whitish fascia running from near the middle of the anterior margin to near the anal angle; *hind-wings* slightly angulated. UNDER-SIDE pale brown; *fore-wing*, with fascia, as on upper side, intersected with veinlets, and having three spots in the disciodal cell, one on each of the three anterior subcostal veinlets; also an undulated spot near the anterior angle, and a small blackish dot between each veinlet near the exterior margin; *hind-wing* also marked with undulated spots and stripes, and with a dot between each veinlet. Form of wings as in ♀ *Symætha*; expanse of wings $1\frac{4}{12}$ in.

a. b. ♀. Java. From Dr. Horsfield's Collection.

3. *MILETUS HORSFIELDI, Moore* (*Plate* 1*a*, *fig.* 2).

M. Horsfieldi, n. sp.—UPPER-SIDE brown, *fore-wing* of the male with an oval longitudinal whitish spot in the centre; female wholly brown, with but a faint indication of lighter colour in the centre of the fore-wing. UNDER-SIDE of both sexes creamy-white, and densely covered with undulating brown strigæ, both wings also having near the exterior margin a darker brown dot between each veinlet. *Hind-wings* rounded, and, in the male, slightly angulated; in the female, these are acute. Expanse of wings in the male $1\frac{7}{12}$ in., female $1\frac{5}{12}$ in.

a. b. c. ♂ ♀. Java. From Dr. Horsfield's Collection.

Genus PITHECOPS, *Horsfield.*

PITHECOPS, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 66 (1828).
LYCÆNA, *p. Westwood, Diurnal Lep.*

4. *PITHECOPS HYLAX, Fabricius Sp.*

Hesperia Hylax, *Fabricius, Mant. Ins.* II. *p.* 77 (1787); *Ent. Syst.* III. *pt.* I. *p.* 304.

Polyommatus Hylax, *Godart, Enc. Méth. H. N.* IX. *p.* 701. *Donovan, Ins. of India, t.* 46, *f.* 2.

♂ ♀ Pithecops Hylax, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 66, *t.* 1, *f.* 2, 2*a*, 2*b* (1828). *Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 57.

Lycæna Hylax, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 496, *No.* 198, *t.* 76, *f.* 8.

a. b. ♂. Java. From Dr. Horsfield's Collection.

c. d. ♀. India. From the Asiatic Society of Bengal.

"In many essential points, the form of the palpi and antennæ, the peculiarities of the feet, &c., this insect agrees with the character of the genus *Polyommatus*, but its habit and aspect are very peculiar: this is owing to the great length and lateral expansion of the wings, to their comparative narrowness, and to their being regularly elliptical and rounded in the anal region."—(Horsfield, Catal.)

"This insect has also naked eyes, scaly palpi, and spurless fore tibiæ, but the wings have the veins arranged in the ordinary manner, and the ungues and their appendages are as small and inconspicuous as in the genus *Lycæna*."—(Westwood, Diurn. Lep.)

Genus POLYOMMATUS, *Latreille, Pr. S. D.*

Polyommatus, *Latreille, Règ. An.* III. *p.* 553 (1817).
Polyommatus, *Stephens. Curtis. Swainson.*
Lycæna, *p. Doubleday. Westwood* (*Diurn. Lep.*).

5. *POLYOMMATUS AKASA, Horsfield.*

♀ Polyommatus Akasa, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 67, *t.* 1, *f.* 1, 1*a* (1828).

Lycæna Akasa, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 491, *No.* 55.

a. b. ♀. Java. From Dr. Horsfield's Collection.

"This species is not abundant in the island of Java, two specimens only being obtained."—(Horsfield.)

6. *POLYOMMATUS PUSPA, Horsfield.*

♂ ♀ Polyommatus Puspa, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 67 (1828).

Lycæna Puspa, *Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 44. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 491, *No.* 56.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. f. ♂. N. India. Presented by Colonel Buckley.

"Common in Java."—(Horsfield.)

7. *POLYOMMATUS LAIUS, Cramer Sp.*

♀ Papilio Laius, *Cramer, Pap. Exot.* IV. *t.* 319, *f. D. E.* (1782).

Lycæna Laius, *Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 44. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 491, *No.* 63.

Hesperia Caius, *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 296 (1793).

Polyommatus Caius, *Godart, Enc. Méth.* IX. *p.* 701.

a. b. ♂ ♀. India. From the Asiatic Society of Bengal.

Genus LYCÆNA, *Fabricius.*

LYCÆNA, *Fabricius* (*Illiger's Mag.* VI. 1807). *Westwood, Diurn. Lep.*

POLYOMMATUS, *p. Godart.*

8. *LYCÆNA PLUTO, Fabricius Sp.*

Hesperia Pluto, *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 288 (1793).

Lycæna Pluto, *Donovan, Ins. of India, t.* 45, *f.* 2. *Hombron et Jacquenot, Voy. Pôle Sud, Lép. t.* 3, *f.* 9, 10. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 490, *No.* 42.

Lycæna Nila, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 78 (1828). *E. Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 43 (*nec.* T. Nila, *Kollar*).

a. b. ♂. N. India. From the Asiatic Society of Bengal.

c. ♂. Ceylon. Presented by the Trustees of the British Museum.

d. ♂. Java. (L. Nila, *Horsf.*) From Dr. Horsfield's Collection.

9. *LYCÆNA AMYNTAS, Fabricius Sp.*

Papilio Amyntas, *Fabricius, Mant. Ins.* II. *p.* 70 (1787). *Wien. Verz. p.* 185.

Lycæna Amyntas, *Ochsenheimer, Schmett. von Europa,* IV. *p.* 26. *E. Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 43. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 490, *No.* 43.

Polyommatus Amyntas, *Godart, Enc. Méth.* IX. *p.* 659.

a. ♂. China (?). Donor unknown.

10. *LYCÆNA ARATUS,* Cramer Sp.*

♀ Papilio aratus, *Cramer, Pap.* IV. *t.* 365, *f. A.B.?* (1782).

Lycæna atratus, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 78. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 490, *No.* 29.

a. ♀. Java. From Dr. Horsfield's Collection.

If new, *L. Kurava,* Moore.

11. *LYCÆNA PARRHASIUS, Fabricius Sp.* (*Plate* 1*a, fig.* 3).

Hesperia Parrhasius, *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 289 (1793).

Lycæna Parrhasius, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 86. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 489, *No.* 13.

Papilio Parrhasius, *Donovan, Ins. India, t.* 45, *f.* 5.

Polyommatus Parrhasius, *Godart, Enc. Méth.* IX. *p.* 657.

a. b. ♂. Java. From Dr. Horsfield's Collection.

12. *LYCÆNA PANDAVA, Horsfield.*

♀ Lycæna Pandava, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 84 (1829). *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 489, *No.* 14.

a. ♀. Java. From Dr. Horsfield's Collection.

13. *LYCÆNA CNEJUS, Fabricius Sp.*

Hesperia Cnejus, *Fabricius, Ent. Syst.* V. *Suppl. p.* 430 (1798).

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* This species was named *aratus* by Cramer, not *atratus* as quoted by authors.

Lycæna Cnejus, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 83. *Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 43. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 490, *No.* 40.

Polyommatus Cnejus, *Godart, Enc. Méth.* IX. *p.* 657.

a. ♀. Java. From Dr. Horsfield's Collection.

b. c. ♂ ♀. India. From the Asiatic Society of Bengal.

14. *LYCÆNA DAMOETES, Fabricius Sp.*

Papilio Damoetes, *Fabricius, Mant. Ins.* II. *p.* 77 (1787). *Donovan, Ins. New Holl. t.* 31, *f.* 2.

Lycæna Damoetes, *Horsfield, Cat. Lep. Mus. E. I. C. p.* 81. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 496, *No.* 193.

Polyommatus Damoetes, *Godart, Enc. Méth.* IX. *p.* 680.

a. b. ♂ ♀. Java. From Dr. Horsfield's Collection.

15. *LYCÆNA KANDARPA, Horsfield.*

Lycæna Kandarpa, *Horsfield, Cat. Lep. Mus. E. I. C. p.* 82 (1829). *Doubleday, List. Lep. Brit. Mus. pt.* II. *p.* 43. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 490, *No.* 39.

a. b. c. ♂ ♀. Java. From Dr. Horsfield's Collection.

d. e. ♂. N. India. From the Asiatic Society of Bengal.

f. ♀. N. India. Presented by Colonel Hearsey.

16. *LYCÆNA BOETICA, Linnæus Sp.*

Papilio Boeticus, *Linnæus, Syst. Nat.* II. *p.* 789 (1766). *Hübner, Eur. Schmett. Pap. t.* 74, *f.* 373, 375. *Ochsenh. Pap. Eur. t.* 1, 2, *p.* 99; id. *Schmett. v. Eur. p.* 27.

Lycæna Boetica, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 80. *Kollar, in Hügel's Kaschmir,* IV. *pt.* II. *p.* 418. *Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 42. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 490, *No.* 25. *Gerhard, Lycænidæ, t.* 11, *f.* 1.

Hesperia Boetica, *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 280.
Polyommatus Boeticus, *Godart, Enc. Méth.* IX. *p.* 653.
Papilio Coluteæ, *Rossi, Faun. Etr.* II. *p.* 155 (1795).

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. f. g. h. ♂ ♀. N. India. Presented by Colonel Hearsey.

17. *LYCÆNA PAVANA, Horsfield.*

Lycæna Pavana, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 77 (1828). *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 490, *No.* 41 (*nec.* P. Pavana, *Kollar*).

a. b. ♂ ♀. Java. From Dr. Horsfield's Collection.

18. *LYCÆNA ELPIS, Godart Sp.*

Polyommatus Elpis, *Godart, Enc. Méth.* IX. *p.* 654 (1819).
Lycæna Elpis, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 76, *t.* 1, *f.* 4. *Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 42. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 490, *No.* 28.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. N. India. From the Asiatic Society of Bengal.

19. *LYCÆNA CELENO, Cramer Sp.*

♂ Papilio Celeno, *Cramer, Pap. Exot.* I. *t.* 31, *f. C. D.* (1779). *Donovan's Drawings in Bibl. Hope, Oxford.*
Lycæna Celeno, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 490, *No.* 27.
Papilio Celerio, *Fabricius, Mant. Ins.* II. *p.* 66 (1787).
Polyommatus Celerio, *Godart, Enc. Méth.* IX. *p.* 654.
Lycæna Celerio, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 75. *Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 42.

a. b. c. ♂ ♀. Java. From Dr. Horsfield's Collection.

d. ♂. Borneo. Presented by A. Lowe, Esq.

20. *LYCÆNA ALEXIS, Stoll Sp.*

Lycæna Alexis, *Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 42.

♂ Papilio Alexis, *Stoll, Suppl. Cramer's Pap. p.* 167, *t.* 38, *f.* 3, 3*a* (1791).

Hesperia Ælianus, *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 280 (1793).

Lycæna Ælianus, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 73, *t.* IV. *f.* 1, 1*a*. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 490, *sp.* 38.

Polyommatus Ælianus, *Godart, Enc. Méth.* IX. *p.* 654.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. f. ♂. N. India. From the Asiatic Society of Bengal.

g. h. ♂ ♀. Canara. Presented by S. N. Ward, Esq.

"The *larva* of *L. Alexis* feeds on the *Butea frondosa*, and was observed in the month of February in Java."—(Horsfield.)

The larva and pupa of this species are figured on Plate 1, fig. 1, 1*a*.

21. *LYCÆNA PLINIUS, Fabricius Sp.*

Hesperia Plinius, *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 284 (1793).

Lycæna Plinius, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 72. *Westwood, in Doubleday und Hewitson's Diurnal Lep. p.* 489, *No.* 17.

Papilio Plinius, *Donovan, Ins. of India, t.* 45, *f.* 1.

Polyommatus Plinius, *Godart, Enc. Méth.* IX. *p.* 658.

a. b. c. ♂ ♀. Java. From Dr. Horsfield's Collection.

d. e. f. ♂ ♀. N. India. Presented by Colonel Hearsey.

22. *LYCÆNA THEOPHRASTUS, Fabricius Sp.*

Hesperia Theophrastus, *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 281 (1793).

Lycæna Theophrastus, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 73. *Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 41.

Westwood, in Doubleday and Hewitson's Diurnal Lep. p. 489, *No.* 10.

Polyommatus Theophrastus, *Godart, Enc. Méth.* IX. *p.* 658.

a. b. India. From the Asiatic Society of Bengal.

c. Canara. Presented by S. N. Ward, Esq.

d. e. f. g. N. India. Presented by Colonel Hearsey.

23. *LYCÆNA ROSIMON, Fabricius Sp.*

Papilio Rosimon, *Fabricius, Mant. Ins.* II. *p.* 71 (1787).

Lycæna Rosimon, *Horsfield, Cat. Lep. Mus. E. I. C. p.* 71. *Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 41. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 489, *No.* 8.

Polyommatus Rosimon, *Godart, Enc. Méth.* IX. *p.* 658.

Papilio Corydon, *Cramer, Pap. t.* 340, *f. C.D.E.* 1782 (*nec. Fabr.*).

a. b. c. d. e. ♂ ♀. Java. From Dr. Horsfield's Collection.

f. g. Silhet. Presented by Colonel F. Buckley.

24. *LYCÆNA MALAYA, Horsfield.*

Lycæna Malaya, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 70 (1828). *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 489, *No.* 15.

a. b. Java. From Dr. Horsfield's Collection.

"This species is comparatively scarce in Java, having obtained only two specimens. In its habit it greatly resembles the individuals of the genus *Polyommatus.*"—(Horsfield.)

25. *LYCÆNA ROXUS, Godart Sp.*

Polyommatus Roxus, *Godart, Enc. Méth.* IX. *p.* 659 (1819).

Lycæna Roxus, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 70, *t.* 2, *f.* 4, 4*a. Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 41. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 489, *No.* 7.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

"Hitherto this species has only been found in Java; it occurs in considerable numbers in the skirts of large forests; but from the great delicacy of the wings, it is not easily obtained in a perfect state."—(Horsfield.)

26. *LYCÆNA PSEUDOROXUS, Doubleday.*

Lycæna pseudoroxus, *Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 41 (1847).

a. Silhet. Presented by the Trustees of the British Museum.

27. *LYCÆNA NYSEUS, Guérin Sp.*

Polyommatus Nyseus, *Guérin-Méneville, in Delessert's Souv. Voy. Inde, pt.* II. *p.* 78, *t.* 22, *f.* 1, 1*a* (1843).

Lycæna Nyseus, *Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 40. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 489, *No.* 6.

a. b. c. Canara. Presented by S. N. Ward, Esq., E.I.C.C.S.

d. e. Madras. From Captain J. M. Jones's Collection.

Genus CHRYSOPHANUS, *Hübner.*

Chrysophanus, *Hübner, Verz. bek. Schmett. p.* 72 (1816). *Westwood. Stephens.*

Polyommatus, *Boisduval. H. Schœffer. Doubleday.*

Lycæna, *Stephens (Ill.). Curtis (Guide).*

28. *CHRYSOPHANUS PHLÆAS, Linnæus Sp.*

Papilio Phlæas, *Linnæus, Syst. Nat.* II. *p.* 793 (1766).

Chrysophanus Phlæas, *Hübner, Eur. Schmett. Pap. f.* 362, 363. *Stephens, Cat. Brit. Lep. Brit. Mus. p.* 17. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 498, *No.* 4.

Polyommatus Phlæas, *Godart, Enc. Méth.* IX. *p.* 670. *Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 53. *Kollar, in Hügel's Kaschmir,* IV. *pt.* II. *p.* 417.

Lycæna Phlæas, *Stephens, Ill. Brit. Lep. H. I. p.* 79.

♀ Papilio Virgaureæ, *Scopoli, Ent. Carn. p.* 181.

Var. ♀ Papilio Timæus, *Cramer, Pap. t.* 146, *f. E. F.*

Var. Papilio turcicus, *Gerhard, Lycæn. t.* 5, *f.* 5.

a. b. ♂ ♀. Bootan. From Pemberton's Collection.

c. d. ♂ ♀. N. India. Presented by Colonel Hearsey.

e. ♀. Darjeeling. Collected by the Messrs. Schlagintweit.

29. *CHRYSOPHANUS PAVANA, Kollar Sp.*

♂ Polyommatus Pavana, *Kollar, in Hügel's Kaschmir*, IV. *pt.* II. *p.* 416, *t.* 5, *f.* 56 (1844), (*nec.* L. Pavana, *Horsf.*).

Thecla Panava, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 487, *No.* 143 (1852).

a. b. ♂. N. India. Presented by Colonel Buckley.

c. d. e. f. ♂ ♀. N. India. Presented by Colonel Hearsey.

Genus ILERDA, *E. Doubleday.*

Ilerda, *E. Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 25 (1847).

Thecla, *p. Boisduval. Westwood, in Doubleday and Hewitson's Diurnal Lep.*

30. *ILERDA SENA, Kollar Sp.*

♂ Polyommatus Sena, *Kollar, in Hügel's Kaschmir, p.* 415, *t.* 5, *f.* 3, 4 (1844).

Thecla Sena, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 487, *No.* 142.

♀ Thecla Cadma, *Boisduval, MS.* (1847).

Ilerda Cadma, *Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 25.

a. ♂. Darjeeling. Reserved from the Indian Collection, Exposition Universelle at Paris, 1855.

b. ♀. N. India. Presented by Colonel Buckley.

31. *ILERDA TAMU, Kollar Sp.*

Polyommatus Tamu, *Kollar, in Hügel's Kaschmir*, IV. *pt.* II. *p.* 417, *t.* 5, *f.* 7, 8 (1844).

Thecla Tamu, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 487, *No.* 144.

a. b. ♂. Bootan. From Pemberton's Collection.

Remark.—Upper-side of wings with glittering blue patches.

32. *ILERDA ANDROCLES, Boisduval Sp.*

Thecla Androcles, *Boisduval, MS.* (1847). *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 487, *No.* 141, *tab.* 75, *f.* 2.

Ilerda Androcles, *E. Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 25.

a. ♂. Silhet. Presented by the Trustees of the British Museum.

b. c. ♂. Darjeeling. Presented by Lieutenant Hugo James.

d. e. ♂. Darjeeling. Collected by Messrs. Schlagintweit.

Remark.—Upper-side of wings with glittering green patches.

33. *ILERDA BRAHMA, Moore* (*Plate* 1*a*, *Fig.* 4).

Ilerda Brahma, n. sp.—Differs from the two preceding species in having the patches of the wings glittering coppery-gold colour, and a broader and longer exterior red band to the hind-wings.

a. ♂. Darjeeling. Collected by the Messrs. Schlagintweit.

34. *ILERDA EPICLES, Godart Sp.*

Polyommatus Epicles, *Godart, Enc. Méth.* IX. *p.* 646 (1819).

Thecla Epicles, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 92, *t.* 1, *f.* 3. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 487, *No.* 140.

Ilerda Epicles, *Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 25.

♀ Heliophorus Belenus, *Hübner, Zutr. f.* 785, 786 (1832).

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. ♂. Darjeeling. Reserved from Indian Collection, Exposition Universelle at Paris, 1855.

"This species is not uncommon in the acclivities near the confines of the extensive medial plain of Java."—(Horsfield.)

"The *Ilerdæ* are beautiful species, with naked eyes, setose palpi, antennæ with long joints ringed with white, and a very well-marked club, and with three branches to the postcostal vein of the fore-wings."—(Westwood, Diurnal Lep. p. 482.)

Genus THECLA, *Fabricius.*

THECLA, *Fabricius* (*in Illiger's Magaz.* VI.) (1807).
POLYOMMATUS, *p. Godart.*

35. *THECLA ONYX, Boisduval.*

Thecla Onyx, *Boisduval, MS.* (1847).
Myrina Onyx, *E. Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 22.

a. Moulmein. Presented by the Trustees of the British Museum.

Thecla Onyx.—UPPER-SIDE has the *fore-wings* dark brown, with a patch of white in the centre; the posterior base, from the subcostal veinlet to the middle of the disc, cyaneous. *Hind-wings* light brown; centre, from base to near exterior margin, cyaneous, paling to light bluish-brown along the abdominal margin. Tails three, two inner longish. UNDER-SIDE pale ferruginous brown; a white fascia crossing the anterior and posterior wings towards anal angle, and ending upwards to abdominal margin in a greenish-metallic line, the latter being bounded inwardly by a narrow blackish line; a blackish spot and line at the anal angle, and another spot some distance off on the exterior margin.

Genus DIPSAS, *Doubleday.*

DIPSAS, *Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 25 (1847). *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 479 (1852).
APHNÆUS, *p. Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 25 (1847).
SITHON, *Hübner, Verz. bek. Schmett. p.* 77 (1816).

36. *DIPSAS SYLA, Kollar Sp.*

♂ Thecla Syla, *Kollar, in Hügel's Kaschmir,* IV. *pt.* II. *p.* 414, *t.* 4, *f.* 7, 8 (1844).
Dipsas Syla, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 480, *No.* 1.
♂ Thecla Pholus, *Boisduval, MS.* (1847).

Dipsas Pholus, *Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 25.

♀ Amblypodia Euphranor, *Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 25 (1847).

a. ♂. Darjeeling. From Pearson's Collection.

b. c. d. ♂. N. India. Presented by Colonel Buckley.

d. e. ♀. Darjeeling. Reserved from the Indian Collection, Exposition Universelle at Paris.

"This species, which is the type of the genus, has a general resemblance to the types of *Amblypodia*, the male being golden-green on the upper surface of the wings, with a black margin (thus resembling *Amblyp. Eumolphus*), whilst the female has the disc of the fore-wings blue, with a white spot beyond the middle, and a broad dark brown margin. From the typical *Amblypodiæ* they are at once distinguished by the hairy eyes and palpi, and the want of an upper disco-cellular vein in the fore-wings."—(Westwood.)

37. *DIPSAS ATAXUS, Boisduval Sp.*

Thecla Ataxus, *Boisduval, MS.* (1847).

♂ Dipsas Ataxus, *Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 25. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 480, *t.* 74, *f.* 7.

a. ♂. N. India. Presented by Colonel Buckley.

b. ♂. Darjeeling. From Messrs. Schlagintweit's Collection.

38. *DIPSAS XENOPHON, Fabricius Sp.*

Hesperia Xenophon, *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 272 (1793).

Dipsas Xenophon, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 480, *No.* 3.

Polyommatus Xenophon, *Godart, Enc. Méth.* IX. *p.* 640.

Papilio Xenophon, *Donovan, Ins. of India, t.* 41, *f.* 3.

Thecla Xenophon, *Horsfield, Cat. Lep. Mus. E. I. C. p.* 94, *t.* IV. *f.* 2, 2*a*.

a. b. c. d. e. ♂ ♀. Java. From Dr. Horsfield's Collection.

"The larva of this species feeds on *Schmiedelia racemosa*, and was found in Java in considerable numbers."—(Horsfield.)

The larva and pupa of *D. Xenophon* are figured on Plate 1, fig. 3, 3*a*.

39. *DIPSAS MELAMPUS, Cramer Sp.*

♂ Papilio Melampus, *Cramer, Pap. Exot.* IV. *t.* 362, *f. G.H.* (1782).

Aphnæus Melampus, *Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 25.

Hesperia Jarbas, *Fabricius, Mant. Ins.* II. *p.* 68 (1787).

Dipsas Jarbas, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 480, *No.* 5.

Polyommatus Jarbas, *Godart, Enc. Méth.* IX. *p.* 646.

Papilio Jarbas, *Donovan, Ins. of India, t.* 40, *f.* 3.

Thecla Jarbas, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 93.

♂ Thecla Sorya, *Kollar, in Hügel's Kaschmir*, IV. *pt.* II. *p.* 414, *t.* 5, *f.* 1, 2 (1844).

a. b. c. d. e. ♂ ♀ Java. From Dr. Horsfield's Collection.

f. g. h. ♂. N. India. Presented by Colonel Buckley.

The larva and pupa of *D. Melampus* are figured on Plate 1, fig. 2, 2*a*.

40. *DIPSAS EPIJARBAS, Boisduval Sp.*

Thecla Epijarbas, *Boisduval, MS.*

Aphnæus Epijarbas, *Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 26.

a. ♂. Canara. Presented by S. N. Ward, Esq., E.I.C.C.S.

b. ♀. N. India. Presented by the Trustees of the British Museum.

c. ♂. Darjeeling. From the Indian Collection, Exposition Universelle at Paris, 1855.

This is larger than *D. Jarbas*, the male having on the UPPER-SIDE of the fore-wings the dark brown border occupying the whole space between the anterior margin and the median vein (in the latter of which it is nearly black), and then branching off to exterior margin, and ending in a point at the middle of the hind margin. The UNDER-SIDE is of a duller tint, and has two whitish undulating lines crossing

the fore and hind-wings, as also two short lines from the median to subcostal veinlet. The outer black spot is entirely encircled with yellow, and above the anal spot is a well-defined lunar-shaped streak of metallic green. The female is somewhat larger, with rounder wings, and is of a fulvous-brown, and may be distinguished by the similarity of the markings of the under-side. Expanse of wings in the male $1\frac{7}{12}$ in., in the female $1\frac{9}{10}$ in.

41. *DIPSAS CHRYSOMALLUS, Hübner Sp.*

♂ Zesius chrysomallus, *Hübner, Zuträge, f.* 301, 302 (1823).
Chrysophanus chrysomallus, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 499, *No.* 29.

? ♀ Myrina Setho, *E. Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 22.

a. ♂. S. India. Donor not known.
b. ♀. Canara. Presented by S. N. Ward, Esq.
c. d. ♀. Locality and donor unknown.

D. chrysomallus. — UPPER-SIDE of male pale cupreous, outer-margin brownish; at anal angle three blackish spots. Tails three. UNDER-SIDE pinkish creamy-white; a band composed of roundish pinkish spots disposed irregularly across both wings; fore-wing with five, and hind-wing with eight pinkish spots towards the base; anal angle with three spots, the two outer black, banded above with red, and the centre one bluish; near outer-margin is a line of indistinct marks; extreme outer-margin and tails pinkish. Female larger, wings more square, brown, tinged with bluish at base; spots on under-side, as in the male, but of a brighter colour.

42. *DIPSAS ISOCRATES, Fabricius Sp.*

Hesperia Isocrates, *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 266 (1793).
Dipsas Isocrates, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 480, *No.* 4.
Polyommatus Isocrates, *Godart, Enc. Méth.* IX. *p.* 633.
Thecla Isocrates, *Westwood, Trans. Linn. Soc.* II. *p.* 4, *t.* 1, *and Donovan's Ins. India, 2nd edit. Downes, Calcutta Journ. N. H.* II. *p.* 408.
Aphnæus Isocrates, *Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 26.

Hesperia Pann, *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 276.
Papilio Pann, *Donovan, Ins. India, t.* 38, *f.* 1 (*nec. Drury*).

a. b. c. d. ♂ ♀. Silhet. Presented by Colonel Buckley.

e. f. ♂. Darjeeling. From Messrs. Schlagintweit's Collection.

The following notice of the transformations of this interesting species was read before the Entomological Society of London, February 2, 1835, by J. O. Westwood, Esq., having been traced by Mr. Charles King, of Madras.

"The larvæ of this butterfly reside in the interior of the pomegranate; seven or eight, at least, having been reared in the interior of a small specimen of this fruit. Of the mode in which the eggs are deposited by the female in the interior of the pomegranate, no information has been received; it is, however, probable that this is effected whilst the fruit is in its very young state. The caterpillars feed upon the seeds and inner part of the fruit, which is thus weakened, and rendered unable to support its own weight, and consequently liable to have its stem broken, and to fall to the ground with the first wind. This, however, would be destruction to the inclosed insects; since, in all probability, they would find it impossible to make their escape were the fruit to be suffered to lie rotting upon the ground. To obviate this evil, the caterpillars, when full fed, have the instinct to eat a hole, about a quarter of an inch in diameter, through the hard shell of the fruit, whilst it remains upon the tree; through this hole they then creep to the stem of the fruit, and spin a white web, which they attach to the basal part of the fruit as well as to the stem, for about the distance of an inch along the latter. This web is sufficiently strong to support the pomegranate from falling after the wind has broken the stem near to the fruit, as is the case in the specimen of the fruit in hand.

From the circumstance of this specimen having as many holes in it as there were caterpillars inhabiting it, it is most probable that the web thus spun is a joint production of the whole.*

* It is curious, as evidencing the instinctive impulses under which each of the inclosed larvæ must have acted, that, instead of availing themselves of the first aperture made in the fruit, each caterpillar should be at the trouble of making a hole for itself, a circumstance which renders it the more probable that all joined in spinning the web.

But it will be at once asked, What necessity could there be for the caterpillars to secure the fruit from falling after each has bored a hole and thus made its escape? This question is answered by the curious circumstance that, after so securing the fruit, the caterpillars return again into the pomegranate, in the hollow interior of which they undergo their transformation to the chrysalis state.

Here, too, we may notice another interesting fact, namely, that the insect has the precautionary instinct, which acts as a second inducement, to make the aperture in the fruit in that stage of its existence in which it is furnished with organs best adapted for the purpose; for, had the larva omitted taking this step, the consequence would have been, that the poor insect, when come to its butterfly state, would have been a prisoner, totally unable to make its escape, being unprovided with any instrument sufficiently powerful to make a hole in the shell; therefore, in this butterfly, it is absolutely necessary that a complete aperture should be left open; and as this is a circumstance which necessarily leaves the pupa exposed, it is not surprising that nature should seldom resort to such a proceeding in the case of internal-feeding insects. Perhaps even in this almost solitary instance, we may fairly imagine that the situation is sufficiently retired to insure them protection from many of their enemies. These chrysalides are attached horizontally upon the inner walls of the pomegranate, by means, first, of a patch of silk laid upon its surface, to the centre of which the tail of the chrysalis is affixed, and, second, of a slender silken thread, passing from side to side over the base of the abdominal segments. As to the manner in which the girthed suspension is effected after the larva has attached itself, I may be allowed to make the following short extract from Messrs. Kirby and Spence's third volume, p. 212. In this order of insects, which have several modus operandi, some of the larvæ which have a short and more rigid body (as *Lycæna Argus*, and many more of the *Papiliones rurales* and *urbicolæ*), 'after having bent the head on one side so as to fix one end of the thread, bring themselves into a straight position, and, by a manœuvre not easily described, contrive to introduce the head under the thread, which they then bend themselves to fasten on the other side, pushing it to its proper situation by the successive tension and contraction of their segments.' A short time after this is effected, the skin of the caterpillar bursts, and its skin is gradually sloughed off beneath the girth, until the pupa is entirely naked; the exuviæ being collected at the extremity of the abdomen.

Another curious instance of instinct yet remains to be noticed. The butterfly, so soon as ever it has escaped from the puparium, must make its escape out of the hole formed by the larva; delay would be death, as the wings would soon acquire their full expansion of nearly a couple of inches; in which state it would, of course, be unable to creep out.

In the chrysalis state, the belly of the insect is placed in contact with the inner surface of the fruit; consequently, as the slit by which the butterfly escapes out of the puparium extends along the back, the under surface of the latter remains entire, the anterior lateral portions on each side the slit (extending as far as the whole coverings of the wings) curling up and lying close upon those parts which had covered the breast and limbs, leaving the abdominal portion in the same form as when it inclosed the insect."

E. T. Downes, Esq., in the Calcutta Journal of Natural History, observes: "I am induced to call the attention of Entomologists to the caterpillar of the butterfly which is so destructive to the fruit of the pomegranate (*Punicea granatum*), as my observations regarding its habits do not correspond with the account given above. At the time the pomegranate is in flower, and at a very early period, the Hair Streak may be seen very busily occupied about the flowers, and I have little doubt that the eggs are deposited at the bottom of the calyx, from the position in which I have seen the abdomen of the butterfly placed; as the fruit enlarges, the eggs are inclosed, and in this situation matured. Recollecting the history of this insect, I determined to enjoy the pleasure of seeing it go through its various stages (the pomegranate-tree being close to my door). In order that I might obtain a perfect insect, I surrounded several of the fruit with fine gauze, but in such a manner as not in the least to interfere with the caterpillar in its labour of connecting the fruit and stalk by means of the web; but, to my astonishment and disappointment, this never took place; the caterpillars issued from the fruit, and, finding their escape impeded, underwent their change on the external part; and so soon as this was effected, I removed the fruit from the tree for the purpose of placing it in a musquito gauze house in my room. Subsequently, I examined several of the fruit, but I never found any chrysalidæ, or the remains of any, inside the fruit. I was very careful in my observations, and I came to the conclusion that the caterpillars, in this instance, deserted the fruit when ready to undergo their change; and I have no doubt of the butterfly being the same, viz., '*Thecla Isocrates*.'"

43. *DIPSAS MALIKA, Horsfield Sp.* (*Plate* 1*a*, *fig.* 5).

Thecla Malika, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 90 (1829).

Dipsas Malika, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 480, *No.* 11.

a. ♂. Java. From Dr. Horsfield's Collection.

44. *DIPSAS KESSUMA, Horsfield Sp.*

Thecla Kessuma, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 89 (1829).

Dipsas Kessuma, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 480, *No.* 10.

a. ♀. Java. From Dr. Horsfield's Collection.

45. *DIPSAS NASAKA, Horsfield Sp.*

Thecla Nasaka, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 91 (1829).

Dipsas Nasaka, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 480, *No.* 8.

a. ♂. Java. From Dr. Horsfield's Collection.

46. *DIPSAS VARUNA, Horsfield Sp.*

Thecla Varuna, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 91 (1829).

Dipsas Varuna, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 480, *No.* 9.

a. *b*. ♂. Java. From Dr. Horsfield's Collection.

Genus APHNÆUS, *Hübner.*

Aphnæus, *Hübner, Verz. bek. Schmett. p.* 81 (1816).
Zeritis, *Boisduval, MS.*

47. *APHNÆUS PINDARUS, Fabricius Sp.*

Hesperia Pindarus, *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 262 (1793). *Donovan, Ins. Ind. t.* 38, *f.* 2.

Aphnæus Pindarus, *E. Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 26.

Amblypodia Pindarus, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 479, *No.* 26.

Zeritis Brahmina, *Boisduval, MS.*

a. ♂. N. India. Presented by the Trustees of the British Museum.

b. ♂. N. India. From Mr. Argent's Collection.

c. ♂. N. India. Presented by Lieutenant Hugo James, 44th Beng. N. I.

d. ♀. Canara. Presented by S. N. Ward, Esq.

48. *APHNÆUS ETOLUS, Cramer Sp.*

♀ Papilio Etolus, *Cramer, Pap. Exot. t.* 208, *f. E.F.* (1782) (*nec. Fabr.*).

Papilio Vulcanus, *Fabricius, Mant. Ins.* II. *p.* 66 (1787). *Donovan, Ins. Ind. t.* 38, *f.* 3.

Aphnæus Vulcanus, *Hübner, Verz. bek. Schmett. p.* 81. *E. Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 26.

Polyommatus Vulcanus, *Godart, Enc. Méth.* IX. *p.* 644.

Amblypodia Vulcanus, *Horsfield, Cat. Lep. Mus. E.I.C. pp.* 106, 107. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 479, *No.* 27.

a. *b*. ♂. India. From the Asiatic Society of Bengal.

c. ♂. Canara. Presented by S. N. Ward, Esq.

d. ♀. Calcutta. Presented by Colonel Buckley.

e. ♀. Java. From Dr. Horsfield's Collection.

49. *APHNÆUS LOHITA, Horsfield Sp.*

Amblypodia Lohita, *Horsfield, Cat. Lep. Mus. E.I.C. pp.* 106, 107 (1829). *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 479, *No.* 19.

a. *b*. ♂ ♀. Java. From Dr. Horsfield's Collection.

50. *APHNÆUS SYAMA, Horsfield Sp.*

Amblypodia Syama, *Horsfield, Cat. Lep. Mus. E.I.C. pp.* 107, 108 (1829). *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 479, *No.* 20.

a. *b*. ♂ ♀. Java. From Dr. Horsfield's Collection.

Genus AMBLYPODIA, *Horsfield.*

AMBLYPODIA, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 98 (1828). *Westwood, Diurn. Lep. p.* 478.

ARHOPALA, *Boisduval.*

DIPSAS, *p. E. Doubleday.*

51. *AMBLYPODIA NARADA, Horsfield.*

♀ Amblypodia Narada, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 98, *t.* 1, *f.* 8; *t.* 4, *f.* 4, 4*a* (1829). *Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 23. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 478, *No.* 9.

Thecla Talazala, *Boisduval, MS. Mus. E.I.C.*

a. ♀. Java. From Dr. Horsfield's Collection.

b. ♂. Java. From Mr. Argent's Collection.

The larva and pupa of *A. Narada* are figured on Plate 1, fig. 4, 4*a*.

52. *AMBLYPODIA VIVARNA, Horsfield.*

Amblypodia Vivarna, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 99 (1829). *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 479, *No.* 10.

a. b. ♂ ♀. Java. From Dr. Horsfield's Collection.

c. ♂. Java. From Mr. Argent's Collection.

53. *AMBLYPODIA APIDANUS, Cramer Sp.*

Papilio Apidanus, *Cramer, Pap. t.* 137, *f. F.G.* ♂ (1779). *Fabricius, Mant. Ins.* II. *p.* 69 (1787).

♂ ♀ Amblypodia Apidanus, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 100. *Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 24. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 478, *No.* 3.

Hesperia Apidanus, *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 280.

Polyommatus Apidanus, *Godart, Enc. Méth.* IX. *p.* 652.

Papilio Dorimond, *Stoll, Suppl. to Cramer's Pap. t.* 37, *f.* 4, 4*D.* ♀ (1791).

a. b. c. d. e. f. ♂ ♀. Java. From Dr. Horsfield's Collection.

g. h. ♂ ♀. Borneo. Presented by Hugh Lowe, Esq.

"In Java, the larva of *Ambl. Apidanus* feeds on the leaves of several species of *Eugenia* and *Calyptranthes*. It occurred not unfrequently, and was from time to time undergoing its change in my breeding-cages."—(Horsfield.)

The larva and pupa are figured on Plate 1, fig. 5, 5*a*.

54. *AMBLYPODIA CENTAURUS, Fabricius Sp.*

Papilio Centaurus, *Fabricius, Mant. Ins.* II. *p.* 68 (1787).

Amblypodia Centaurus, *Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 24. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 478, *No.* 1.

Polyommatus Centaurus, *Godart, Enc. Méth. H. N.* IX. *p.* 658.

a. b. ♂ ♀. Cherra Poonjee. *c.* ♀. Silhet. Presented by Colonel Buckley.

c. d. ♂ ♀. Darjeeling. From Messrs. Schlagintweit's Collection.

55. *AMBLYPODIA PSEUDO-CENTAURUS, Doubleday.*

Amblypodia Pseudo-Centaurus, *Doubleday, List. Lep. Brit. Mus. pt.* II. *p.* 24 (1847). *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 478, *No.* 2.

♂ ♀ Amblypodia Centaurus, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 102 (*nec. Fabr.*).

a. b. c. ♂ ♀. Java. From Dr. Horsfield's Collection.

56. *AMBLYPODIA SILHETENSIS, Boisduval Sp.*

Thecla silhetensis, *Boisduval, Sp. Gén.* II. (*ined.*).

Amblypodia silhethensis, *Doubleday, List Lep. Brit. Mus. pt.* II. *Suppl. p.* 36 (1847).

a. b. ♂ ♀. Silhet. Presented by Colonel Buckley.

57. *AMBLYPODIA HELUS, Cramer Sp.*

♂ Papilio Helus, *Cramer, Pap. t.* 201, *f. F. G.* (1782).

Amblypodia Helus, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 103. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 478, *No.* 4.

Polyommatus Helus, *Godart, Enc. Méth. H. N.* IX. *p.* 652. *Lucas, Hist. Nat. Lep. Exot. t.* 44, *f.* 4.

a. ♂. Java. From Dr. Horsfield's Collection.

58. *AMBLYPODIA CAMDEO, Doubleday* (*Plate* 1*a*, *fig.* 6).

Amblypodia Camdeo, *Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 24 (1847).

a. b. ♂ ♀. N. India. Presented by Colonel Sykes.

c. d. ♂. Silhet. Presented by Colonel Buckley.

e. f. ♂ ♀. Darjeeling. From Messrs. Schlagintweit's Collection.

Amblypodia Camdeo.—Male, UPPER-SIDE pale violet-blue, with a whitish tint in the centre, and a dark mark at the end of the discoidal cell of the fore-wing; extreme edge of anterior margin of fore-wing, ciliæ, tail, and a short tuft at anal angle, dark brown. UNDER-SIDE buff-brown; *fore-wing* having near the base of discoidal cell a small blackish spot, then a longer square one, and parallelly beyond this another squarish undulated spot; then a series of seven oval and lunate spots across the wing, one between each veinlet, also some irregular-shaped spots disposed at the posterior side of the median vein, all these being encircled by a narrow white band; near and parallel with the exterior margin are two series of pale white marks, the space between these being of a darkish brown. *Hind-wing* with five black spots near the base (these spots on both wings forming a circle); beyond these are three, then two, and afterwards a series of somewhat smaller spots, this series ending upwards to abdominal margin in a long narrow mark, all being encircled as those in fore-wing; near and parallel with the exterior margin are markings as in fore-wing; near anal angle are disposed some patches of black and metallic blue.

Female, UPPER-SIDE bright cyaneous, with a broad anterior and exterior margin to both wings; anal angle with two or three cyaneous lunar-shaped marks; abdominal margin in both sexes of a creamy colour; body dark brown. UNDER-SIDE as in the male. Expanse of wings $2\frac{3}{8}$ in.

59. *AMBLYPODIA EUMOLPHUS, Cramer Sp.*

♂ Papilio Eumolphus, *Cramer, Pap. Exot.* III. *t.* 299, *f. G.H.* (1782).

♂ ♀ Amblypodia Eumolphus, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 103. *Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 24. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 478, *No.* 8.

Polyommatus Eumolphus, *Godart, Enc. Méth. H.N.* IX. *p.* 652.

a. b. ♂ ♀. Java. From Dr. Horsfield's Collection.

60. *AMBLYPODIA RAMA, Kollar Sp.*

♀ Thecla Rama, *Kollar, in Hügel's Kaschmir*, IV. *pt.* II. *p.* 412, *t.* 4, *f.* 1, 2 (1844).

a. ♂. Canara. Presented by S. N. Ward, Esq.

b. ♀. N. India. Presented by Colonel Sykes.

61. *AMBLYPODIA PERIMUTA, Boisduval.*

Amblypodia Perimuta, *Boisduval, MS. E. Doubleday, List of Lep. Brit. Mus. pt.* II. *p.* 24.

a. ♂. Silhet. Presented by the Trustees of the British Museum.

A. Perimuta.—Upper-side of the male glossy purple, with a narrow black border on exterior margins. Under-side brown, glossed over with purple; *fore-wing* with two oval marks and an undulating line of a paler colour; *hind-wing* with a broad, uneven, and indistinctly-defined fascia of a creamy colour crossing from the anterior to abdominal margin, these wings being also marked with several oval and undulating lines; fore-wing pointed at the anterior angle; hind-wings rounded, without tails. Expanse of wings $1\frac{5}{12}$ in.

62. *AMBLYPODIA EPIMUTA, Boisduval.*

Amblypodia Epimuta, *Boisduval, MS. E. Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 24.

a. ♂. Borneo. Presented by Hugh Lowe, Esq.

A. Epimuta.—Upper-side of the male wholly glossy purple. Under-side brown, and covered with a series of undulating lines; anal angle of hind-wing with a patch of metallic blue. Wings somewhat rounded. Without tails. Expanse of wings $1\frac{7}{10}$ in.

63. *AMBLYPODIA QUERCETORUM, Boisduval* (*Plate* 1*a*, *fig.* 7).

Amblypodia Quercetorum, *Boisduval, MS. Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 25 (1847).

a. ♂. Silhet. Presented by the Trustees of the British Museum.

b. c. ♂. N. India. Donor unknown.

A. Quercetorum.—UPPER-SIDE dark brown; centre of wings deep purple. UNDER-SIDE brown; *fore-wing* with a series of small dark spots near the exterior margin, then an undulating line, and towards the base some indistinct spots; *hind-wing* with a dark brown fascia running from the anterior angle across to middle of abdominal margin; an undulating dark line near exterior margin, and two small whitish elongated spots near anterior margin; anterior and posterior angle of fore-wing pointed; hind-wing with the anal angle elongated. Expanse of wings 1⅝ in.

64. *AMBLYPODIA QUERCETI, Boisduval.*

Amblypodia Querceti, *Boisduval, MS. Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 25 (1847).

a. b. c. d. e. ♂ ♀. N. India. Presented by Colonel Buckley.

A. Querceti.—Male, UPPER-SIDE purple; *fore-wing* with broadish brown exterior margin commencing from middle of anterior margin; *hind-wing* with broad brown margins. Female, UPPER-SIDE with discoidal cell and posterior base of *fore-wing*, and middle of *hind-wing*, purple, the disc of fore-wing being somewhat lighter and pinky; the rest of the wings brown. UNDER-SIDE greyish-brown, slightly rufescent on *fore-wing;* an undulating broad band of rufescent brown crosses the fore and hind-wings, another inwardly on the latter half across the wing, then two or three spots; near exterior margin of both wings is an indistinct angulated line; fore-wing angulated exteriorly; hind-wing rounded; tail, one. Expanse of wings 1½ in.

65. *AMBLYPODIA DODONÆA, Boisduval* (*Plate* 1*a, fig.* 8).

Amblypodia Dodonæa, *Boisduval, MS. Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 25 (1847).

a. b. c. d. ♀. N. India. Presented by Colonel Buckley.

A. Dodonæa.—Female, UPPER-SIDE, *fore-wing* with discoidal cell and posterior base blue, palest in the centre of disc, and intersected by dark veinlets, the rest of wing dusky-brown; *hind-wing* with

centre, blue; outer margin brown; anterior and abdominal margins paler. UNDER-SIDE dark cream-colour; *fore-wing* paler posteriorly, with an ill-defined band near outer margin, then a broad undulating band, and some spots of a darker shining tint; *hind-wing* also with an ill-defined but more angulated band near outer margin, then two series of undulating lines, and also spots at base of wing. Shape of wings as in *A. Querceti*, but exterior margin of fore-wing more angulated. Expanse of wings $1\frac{3}{8}$ in.

66. *AMBLYPODIA GANESA, Moore* (*Plate* 1*a*, *fig.* 9).

A. Ganesa, n. sp.—UPPER-SIDE, *fore-wings*, with discoidal cell and posterior base, sky-blue; the end of discoidal cell and between discoidal veinlets white; rest of wing dark brown; *hind-wing* sky-blue to near exterior margin, rest brown; abdominal margin and ciliæ paler. UNDER-SIDE cream-white; *fore-wings* nearly covered with broad undulating brown bands; *hind-wings* with ill-defined undulating bands; near outer margin of both wings appear a very faint undulated line and a series of dots. Wings shaped as in *A. Querceti* and *A. Dodonæa*. Without tails. Expanse of wings $1\frac{1}{4}$ in.

a. b. c. d. N. India. Presented by Colonel Buckley.

67. *AMBLYPODIA TIMOLEON, Stoll Sp.*

Papilio Timoleon, *Stoll, Suppl. to Cramer, Pap. t.* 32, *f.* 4, 4*D* (1791).

Amblypodia Timoleon, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 478, *No.* 23.

Thecla Nila, *Kollar, in Hügel's Kaschmir, p.* 413, *t.* IV. *f.* 5, 6 (1844), (*nec.* Th. Nila, *Horsf.*).

Amblypodia Lyco, *Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 23 (1847).

a. ♂. Bootan. (*A. Lyco*, Doubleday.) From Pemberton's Collection.

68. *AMBLYPODIA ROCHANA, Horsfield* (*Plate* 1*a*, *f.* 10).

♂ Amblypodia Rochana, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 108 (1829).

Thecla Timoleon, *Boisduval, Sp. Gén. Lép. t.* 22, *f.* 4?

a. ♂. Java. From Dr. Horsfield's Collection.

69. *AMBLYPODIA VIDURA, Horsfield.*

♂ Amblypodia Vidura, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 113, *t.* 1, *f.* 6, 6*a* (1829). *E. Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 23. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 478, *No.* 18.

a. ♂. Java. From Dr. Horsfield's Collection.

70. *AMBLYPODIA LONGINUS, Fabricius Sp.*

Hesperia Longinus, *Fabricius, Ent. Syst.* V. *p.* 430 (1798).

Amblypodia Longinus, *Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 23. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 478, *No.* 16.

Polyommatus Longinus, *Godart, Enc. Méth.* IX. *p.* 634. *Lucas, Lep. Exot. t.* 44, *f.* 3.

Bithys Longinus, *Hübner, Zuträge, f.* 933, 934 (1837).

a. b. c. ♂ ♀. N. India. Presented by the Asiatic Society of Bengal.

71. *AMBLYPODIA PSEUDOLONGINUS, Doubleday.*

Amblypodia Pseudolonginus, *Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 23 (1847). *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 478, *No.* 17.

♂ ♀ Amblypodia Longinus, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 110, *t.* 1, *f.* 7 (*nec. Fabr.*).

a. b. c. d. e. ♂ ♀. Java. From Dr. Horsfield's Collection.

"The larva of *Amblyp. Pseudolonginus* feeds on the leaves of a species of *Loranthus*, and was observed in the month of February." —(Horsfield, MS.)

The larva and pupa of *A. Pseudolonginus* are figured on Plate 1, fig. 6, 6*a*.

72. *AMBLYPODIA HYPATADA, Boisduval Sp.*

Thecla Hypatada, *Boisduval, MS.*

Myrina Hypatada, *Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 23.

a. b. ♂. N. India. Presented by Colonel Buckley.

A. Hypatada.—Male, UPPER-SIDE, *fore-wing*, with discoidal cell, posterior base to posterior angle, brilliant light sky-blue; rest of wing dark brown; *hind-wing* brilliant light sky-blue, with brown ciliæ; abdominal margin cream-colour. UNDER-SIDE light creamy-brown, with a well-defined narrow undulating band of reddish-brown crossing the *fore* and *hind-wings*, terminating abdominally in a zig-zag manner on the latter; near exterior margins an indistinct line; near anal angle two black spots, bordered anteriorly with red, and posteriorly with powdered white. Tails broken off. Expanse of wings $1\frac{5}{12}$ in.

73. *AMBLYPODIA NISSA, Kollar Sp.*

Thecla Nissa, *Kollar, in Hügel's Kaschmir*, IV. *pt.* II. *p.* 412, *t.* 4, *f.* 3, 4 (1844).

a. b. c. ♂ ♀. N. India. Presented by Colonel Buckley.

74. *AMBLYPODIA DEVA, Moore.*

Ambl. Deva, n. s.—Male, UPPER-SIDE, *fore-wing*, with discoidal cell and posterior base, brilliant deep blue, intersected by the dark median and submedian veinlets; costal margin and anterior half of wing to beyond posterior angle dark brown; *hind-wing*, with the centre from the base, brilliant deep blue; a broad anterior and narrow exterior margin of dark brown; along the exterior margin are disposed some blackish marks; a black spot at the anal angle, surrounded with whitish; abdominal margin pale brown; tails two, brown; ciliæ whitish. UNDER-SIDE cream-colour, with a series of interrupted marks disposed in an undulating line across the *fore* and *hind-wings*, and terminating in a zig-zag manner abdominally; anal angle with a black spot, bordered anteriorly with red, and another of the same a short distance off on the exterior margin. Female, UPPER-SIDE paler blue, and with lighter brown margins. Expanse of wings in male $1\frac{3}{8}$ in.; female $1\frac{5}{8}$ in.

a. b. ♂ ♀. Canara. Presented by S. N. Ward, Esq.

75. *AMBLYPODIA JANGALA, Horsfield* (*Plate* 1*a*, *f.* 11).

♀ Amblypodia Jangala, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 113 (1829). *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 478, *No.* 22.

a. ♀. Java. From Dr. Horsfield's Collection.

b. c. ♂. Darjeeling. From the Indian Collection, Exposition Universelle at Paris, 1855.

A. Jangala.—Male, UPPER-SIDE brownish-black, with the discoidal cell and posterior base of the fore-wing and centre of hind-wing shining indigo-blue.

Genus MYRINA, *Godart.*

MYRINA, *Godart, Enc. Méth.* IX. *p.* 592 (1819).

76. *MYRINA JAFRA, Godart.*

Myrina Jafra, *Godart, Enc. Méth.* IX. *p.* 592 (1819). *Horsfield, Cat. Lep. Mus. E.I.C. p.* 118, *t.* 11, *f.* 5, 5*a*. *Lucas, Hist. Nat. Lep. Exot. t.* 43, *f.* 4. *Guérin-Méneville, Icon. Règ. An. Ins. p.* 489, *t.* 81, *f.* 3. *Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 21. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 476, *No.* 1.

a. b. c. ♂ ♀. Java. From Dr. Horsfield's Collection.

77. *MYRINA ACTE, Doubleday.*

Myrina Acte, *Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 21 (1847).

a. N. India. Presented by the Trustees of the British Museum.

b. c. N. India. Presented by Lieutenant Hugo James, 44th Bengal N. I.

M. Acte.—UPPER-SIDE dark smoky-brown; *hind-wing* with three spots of white near anal angle; tail and anterior margin whitish. UNDER-SIDE reddish chrome-yellow, with an indistinct undulating line crossing the *fore* and *hind-wings*, terminating abdominally on the latter in separate lighter spots; near anal angle brownish, with two black spots bounded anteriorly with metallic blue. Expanse of wings 1½ in.

78. *MYRINA THARIS, Hübner Sp.*

Oxylides Tharis, *Hübner, Zutr. f.* 883, 884 (1837).

Myrina Tharis, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 476, *No.* 12.

Myrina Pharis, *E. Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 22 (1847); *Diurnal Lep. t.* 7*, *f.* 3.

a. India. Presented by the Trustees of the British Museum.

M. Tharis.—Upper-side brown; *fore-wing* with a broad band from angle of abdominal margin across the wing to middle of exterior margin; a spot near to, and the margin of anal angle, tails and broad ciliæ pure white. Under-side, with *fore-wing* chrome-red; basal half of *hind-wing* slightly paler; anal half white, with patches of black disposed at anal angle and between the veinlets along exterior margin; across the wing, from abdominal margin to near anterior angle (separating the red and white colours), is a zig-zag line. Expanse of wing 1½ in.; middle tail ½ in.

79. *MYRINA LAPITHIS, Boisduval Sp.*

Thecla Lapithis, *Boisduval, MS.* (1847).

Amblypodia Lapithis, *E. Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 23 (1847).

a. Moulmein. Presented by the Trustees of the British Museum.

M. Lapithis.—Upper-side glossy-brown; anal part of *hind-wing* tail, and ciliæ, white, with a patch of light glistening blue at anal angle and between median veinlets. Under-side, *fore-wing* chrome-yellow, darker on anterior half; a white fascia from middle of anterior margin, spreading widely across to posterior margin, and bordered by blackish; three separate blackish short lines across the anterior half of the wing; *hind-wing* white; extreme base and anterior angle yellow; at base and in centre of wing are disposed several spots and short lines of black; anal angle black; a black spot at angle on exterior margin, these being bounded anteriorly with metallic silvery-green, and then yellow. Expanse of wings 1¼ in.

80. *MYRINA LISIAS, Fabricius Sp.*

Papilio Lisias, *Fabricius, Mant. Ins.* II. *pp.* 65, 261 (1787); *Ent. Syst.* III. *pt.* I. *p.* 261.

Myrina Lisias, *Godart, Enc. Méth.* IX. *p.* 593. *Boisduval, Sp. Gén.* I. *t.* 22, *f.* 2. *E. Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 21. *Westwood, in*

Doubleday and Hewitson's Diurnal Lep. p. 476, *No.* 3.

a. ♀. Moulmein. Presented by the Trustees of the British Museum.

81. *MYRINA TRIOPAS, Cramer Sp.*

Papilio Triopas, *Cramer, Pap. Exot.* IV. *t.* 320, *f. G.H.* (1782).

Papilio Amor, *Fabricius, Mant. Ins.* II. *p.* 65 (1787). *Herbst, Pap. t.* 302, *f.* 9, 10.

Myrina Amor, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 476, *No.* 4.

Polyommatus Amor, *Godart, Enc. Méth.* IX. *p.* 620.

Zephyrius Amor, *Guérin-Méneville, Icon. Règ. An. Ins. p.* 490, *t.* 81, *f.* 6.

a. Canara. Presented by S. N. Ward, Esq., E.I.C.C.S.

82. *MYRINA ETOLUS, Fabricius Sp.*

Papilio Etolus, *Fabricius, Mant. Ins.* II. *p.* 66 (1787); *Ent. Syst.* III. *pt.* I. *p.* 264 (*nec. Cramer*, 1782).

Myrina Etolus, *E. Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 22. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 476, *No.* 9.

Polyommatus Etolus, *Godart, Enc. Méth.* IX. *p.* 639.

Amblypodia Etolus, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 115, *t.* 1, *f.* 9.

a. ♂. Java. From Dr. Horsfield's Collection.

b. c. ♂ ♀. Dukhun. Presented by Colonel Sykes.

d. ♂. Silhet. Presented by Colonel Buckley.

83. *MYRINA AMYNTOR, Herbst Sp.*

Papilio Amyntor, *Herbst, Pap. t.* 300, *f.* 5, 6.

Myrina Amyntor, *E. Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 21. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 476, *No.* 15.

a. b. c. ♂ ♀. N. India. From Mr. Argent's Collection.

d. ♀. Silhet. Presented by Colonel Buckley.

84. *MYRINA ERYLUS, Godart Sp.*

Polyommatus Erylus, *Godart, Enc. Méth.* IX. *p.* 633 (1819).

Myrina Erylus, *E. Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 22. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 476, *No.* 14.

Amblypodia Erylus, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 111.

a. b. c. ♂ ♀. Java. From Dr. Horsfield's Collection.

d. ♂. Silhet. Presented by the Trustees of the British Museum.

e. ♂. India. From Mr. Argent's Collection.

85. *MYRINA JALINDRA, Horsfield Sp.*

♀ Amblypodia Jalindra, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 109 (1829). *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 478, *No.* 21.

♀ Polyommatus Nedymond, *Godart, Enc. Méth.* IX. *p.* 634 (1819) (*nec. Cramer*).

a. ♀. Java (type). From Dr. Horsfield's Collection.

b. ♂. Silhet. Presented by Colonel Buckley.

c. ♀. Canara. Presented by S. N. Ward, Esq.

M. Jalindra.—Male, UPPER-SIDE varying violet-blue; exterior margin of *fore-wing*, and anterior, exterior, and abdominal margin of *hind-wing*, brown; anal angle whitish. UNDER-SIDE as in female.

86. *MYRINA NEDYMOND, Cramer Sp.*

♂ Papilio Nedymond, *Cramer, Pap. Exot.* III. *t.* 299, *f. E.F.* (1782), (*nec. Godart, Enc. Méth.*).

Myrina Nedymond, *E. Doubleday, List of Lep. Brit. Mus. pt.* II. *p.* 22. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 476, *No.* 7.

Thecla Nedymond, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 96 (1829).

a. b. ♂. Java. From Dr. Horsfield's Collection.

87. *MYRINA CHITRA, Horsfield Sp.*

♀ Thecla Chitra, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 97, *t.* 1, *f.* 5 (1829).

Myrina Chitra, *E. Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 22. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 476, *No.* 8.

a. b. ♀. Java. From Dr. Horsfield's Collection.

88. *MYRINA RAVINDRA, Horsfield.*

♂ ♀ Myrina Ravindra, *Horsfield, Cat. Lep. Mus. E. I. C. p.* 117, *t.* 1, *f.* 11, 11*a* (1829). *Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 22. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 476, *No.* 5.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

89. *MYRINA SUGRIVA, Horsfield Sp.* (*Plate* 1*a*, *fig.* 12).

Amblypodia Sugriva, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 105, *t.* 1, *f.* 10, 10*a* (1829).

Myrina Sugriva, *E. Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 21. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 476, *No.* 2.

a. Java. From Dr. Horsfield's Collection.

Genus LOXURA, *Horsfield.*

Loxura, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 119 (1829). *Westwood, Diurn. Lep. p.* 475.

Marmessus, *p. Hübner.*

Myrina, *p. Godart.*

90. *LOXURA ATYMNUS, Cramer Sp.*

Papilio Atymnus, *Cramer, Pap. Exot.* IV. *t.* 331, *f. D.E.* (1782).

Loxura Atymnus, *Horsfield, Cat. Lep. Mus. E. I. C. p.* 121. *Boisduval, Sp. Gén. Lép.* I. *t.* 7, *f.* 3; *t.* 11, *f.* 6, 6*a*. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 475. *Kollar, in Hügel's Kaschmir, p.* 411.

Hesperia Atymnus, *Fabricius, Mant. Ins.* II. *p.* 70 (1787); *Ent. Syst.* III. *pt.* I. *p.* 283.

Myrina Atymnus, *Godart, Enc. Méth.* IX. *p.* 594. *E. Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 21.

Papilio Atymnus, *Donovan, Ins. of India, t.* 39, *f.* 1.

Marmessus Atymnus, *Hübner, Verz. bek. Schmett. n.* 828.

a. b. c. d. e. ♂ ♀. Java. From Dr. Horsfield's Collection.

f. g. h. N. India. Presented by Colonel Buckley.

i. Canara. Presented by S. N. Ward, Esq.

The female of this species, according to the observation of Dr. Horsfield, "can be distinguished only by the structure of the anterior tarsi."

91. *LOXURA SURYA, Moore* (*Plate* 1*a*, *fig.* 13).

L. Surya, n. sp.—Differs from *L. Atymnus* in having the fulvous colour of the UPPER-SIDE more intense and brighter; the blackish-brown border of the *fore-wing* is also darker, and which extends to the base of the wing, occupying the whole space between the costal vein and anterior margin; a patch of blackish-brown near base of anterior margin of *hind-wing*, abdominal margin brown. UNDER-SIDE dark ochreous.

a. Canara. Presented by S. N. Ward, Esq.

92. *LOXURA PITA, Horsfield.*

♀ Loxura Pita, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 122 (1829). *Westwood, in Doubleday and Hewitson's Diurnal Lep. t.* 74, *f.* 1, 2, *p.* 472.

Myrina Pita, *E. Doubleday, List Lep. Brit. Mus. p.* 21.

a. ♀. Java. From Dr. Horsfield's Collection.

Genus ANOPS, *Boisduval.*

ANOPS, *Boisduval, Sp. Gén. Lép.* I. *p.* 6 (1836). *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 473.

PHÆDRA, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 124 (1829).

93. *ANOPS THETYS, Drury Sp.*

♀ Papilio Thetys, *Drury, Ill. Ins. t.* 9, *f.* 3, 4 (1770). *Cramer, Pap. Exot.* III. *t.* 238, *f. D.*

Anops Thetys, *Doubleday, List Lep. Brit. Mus.* II. *p.* 20.

♂ Papilio Phædrus, *Fabricius, Mant. Ins.* II. *p.* 79 (1787); *Syst. Ent.* III. *pt.* I. *p.* 307.

Anops Phædrus, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 473.

Polyommatus Phædrus, *Godart, Enc. Méth. Hist. Nat.* IX. *p.* 675.

♂ Candalides Phædrus, *Hübner, Verz. bek. Schmett. n.* 720 (1816).

♀ Papilio Æsopus, *Fabricius, Mant. Ins.* II. *p.* 79; *Syst. Ent.* III. *pt.* I. *p.* 307.

Curetis Æsopus, *Hübner, Verz. n.* 1070 (1816).

♂ ♀ Phædra terricola, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 124 (1829).

a. b. ♂. N. India. Purchased.

c. ♀. Canara. Presented by S. N. Ward, Esq.

94. *ANOPS INSULARIS, Horsfield Sp.* (*Plate* 1*a, fig.* 14).

♂ Phædra insularis, *Horsfield, Cat. Lep. Mus. E. I. C. p.* 125 (1829).

Anops insularis, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 473.

a. ♂. Java. From Dr. Horsfield's Collection.

95. *ANOPS CINYRA, Cramer Sp.*

♂ Papilio Cinyra, *Cramer, Pap. Exot.* III. *t.* 238, *f. C.* (1782).

Candalides Phædrus, *apud Hübner, Zuträge, f.* 263, 264 (*nec. Fabr.*).

a. b. ♂. Java. From Dr. Horsfield's Collection.

In the three preceding species the hind-wings are more rounded than in *A. Bulis* and *A. Santana.*

96. *ANOPS BULIS, Boisduval.*

♂ Anops Bulis, *Boisduval, MS.* (1847). *E. Doubleday, List Lep. pt.* II. *p.* 21. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 473, *t.* 75, *f.* 5 (1852).

a. ♂. Bootan. From Pemberton's Collection.

b. *c*. ♂. Silhet. Presented by Colonel Buckley.

d. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

e. ♂. N. India. Donor unknown.

The female of this species may be distinguished by the white patches on the UPPER-SIDE of both wings being larger; the *fore-wings* having a disco-cellular dentiform mark of black. UNDER-SIDE silvery creamy-white, and having a darkish band running from anterior angle of fore-wing in a straight line to anal angle of hind-wing, the whole surface of the under-side being covered with very minute dark-brown dots.

97. *ANOPS SANTANA, Moore.*

Anops Phædrus, *apud Boisduval, Spéc. Gén. Lép.* I. *t.* 23, *f.* 1.

a. ♂. Java. From Dr. Horsfield's Collection.

b. *c*. ♂. Java. From Mr. Argent's Collection.

Stirps II., with CHILOGNATHIFORM or JULIFORM Larva.

CHILOGNATHIFORM or JULIFORM (*part*), *Horsfield, Cat. Lep. Mus. E.I.C. pp.* 38, 127 (1828). *Swainson, Cabinet Cyclop. pp.* 58, 63 (1840).

A. PAPILIO (*part*), *Linnæus*—DANAI CANDIDI.

B. PAPILIO (*part*), *Linnæus*—EQUITES, TROES *et* ACHIVI.

A.

PAPILIONES (*part*), *Horsfield, Cat. Lep. Mus. E.I.C. p.* 59 (1828).

PIÉRIDES, *Boisduval, Hist. Gén. des Lép. Amér. Sep. p.* 2 (1829); id. *Spéc. Gén. Lép.* I. *pp.* 163, 402 (1836); id. *Index Méth. Europ. Lép. p.* 4 (1840). *Westwood, Introd. to Mod. Class. Ins.* II. *p.* 349; *Syn. p.* 87 (1840).

COLIADES, *Boisduval, Hist. Gén. des Lép. Amér. Sep. p.* 2 (1829).

PIERINÆ *et* COLIANÆ, *Swainson, Cabinet Cyclop. pp.* 87–9 (1840).

PIERIDÆ, *Dup. C. p.* 23 (1846). *E. Doubleday, Diurnal Lep. p.* 32.

RHODOCERIDÆ, *Dup. C. p.* 26 (1846).

PIERIDI, *Stephens, Cat. Brit. Lep. Brit. Mus. p.* 3 (1850). *Stainton, Manual Brit. Butt. pp.* 12, 15 (1856).

RHODOCERIDI, *Stephens, Cat. Brit. Lep. Brit. Mus. p.* 2 (1850).

LEP. HEXAPODA (*part*), *Latreille; Règ. Anim.* V. *p.* 374 (1829).

PAPILIONIDÆ (*part*), *Swainson, Cabinet Cyclop. p.* 86 (1840). *Stainton, Manual Brit. Butt. pp.* 10, 12 (1856).

DANAI FLAVI, *MM. Denis et Schiffermüller, Wien. Verz. p.* 164 (1776).

Genus CALLIDRYAS, *Boisduval.*

CALLIDRYAS, *Boisduval, Hist. Gén. et Icon. des Lép. et Chen. Amér. Sep. p.* 73 (1829); id. *Spéc. Gén. Lép.* I. *p.* 607. *Doubleday, Diurnal Lep. p.* 66.

COLIAS, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 128 (1829).

CATOPSILIA, MURTIA, PHŒBIS, COLOTIS, *Hübner, Verz.* (1816).

98. *CALLIDRYAS PYRANTHE, Linnæus Sp.*

Papilio Pyranthe, *Linnæus, Syst. Nat.* II. *p.* 763 (1767). *Fabricius, Spec. Ins.* II. *p.* 44 (1781).

Callidryas Pyranthe, *Boisduval, Spéc. Gén. Lép.* I. *p.* 611 (1836). *Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 38 (1844); id. *Diurnal Lep. p.* 67.

Colias Pyranthe, *Godart, Enc. Méth.* IX. *p.* 97 (1819). *Horsfield, Cat. Lep. Mus. E.I.C. p.* 129.

Papilio Chryseis, *Drury, Ins.* I. *t.* 12, *f.* 3, 4 (1770).

Papilio Gnoma, *Fabricius, Spec. Ins.* II. *p.* 50; id. *Syst. Ent. App. p.* 828 (1775); *Ent. Syst.* III. *pt.* I. *p.* 210.

Papilio Nephte, *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 190 (1793).

Papilio Alcyone, *Cramer, Pap.* I. *t.* 58, *f. A. B. C.* (1779).

a. b. ♂ ♀. Java. From Dr. Horsfield's Collection.

c. d. ♂ ♀. Pinang. Presented by Dr. Cantor, 1844.

The larva and pupa of *C. Pyranthe* are figured on Plate 1, fig. 8, 8*a*, discovered in Ceylon by E. L. Layard, Esq., from whose drawings our figures are copied.

99. *CALLIDRYAS PHILIPPINA, Cramer Sp.*

Papilio Philippina, *Cramer, Pap. t.* 361, *f. C.D.* (1782).

Callidryas Philippina, *Boisduval, Spéc. Gén. Lép.* I. *p.* 609 (1836). *Doubleday, List Lep. Brit. Mus. pt.* I. *App. p.* 147; *Diurnal Lep. p.* 67 (1847).

Colias Philippina, *Hübner, Verz. bek. Schmett. p.* 99 (1816). *Godart, Enc. Méth.* IX. *p.* 96 (1819). *Horsfield, Cat. Lep. Mus. E.I.C. p.* 130 (1829).

a. b. c. d. ♂ ♀. India. From the Asiatic Society of Bengal.

100. *CALLIDRYAS ALCMEONE, Cramer Sp.*

Papilio Alcmeone, *Cramer, Pap.* II. *t.* 141, *f. E.* (1779). *Fabricius, Spec. Ins.* II. *p.* 44 (1781); id. *Ent. Syst.* III. *pt.* I. *p.* 196 (1793).

Callidryas Alcmeone, *Boisduval, Spéc. Gén. Lép. p.* 627.

Doubleday, List Lep. Brit. Mus. pt. I. *p.* 40; id. *Diurnal Lep. p.* 68.

Colias Alcmeone, *Godart, Enc. Méth.* IX. *p.* 97. *Horsfield, Cat. Lep. Mus. E.I.C. p.* 131.

Catopsilia Alcmeone, *Hübner, Verz. bek. Schmett. p.* 98 (1816).

Var. ♀ Papilio Jugurtha, *Cramer, Pap. Exot.* II. *t.* 187, *f. E.F.* (1779).

Colias Jugurthina, *Godart, Enc. Méth.* IX. *p.* 96. *Horsfield, Cat. Lep. Mus. E.I.C. p.* 132.

? Var. ♀ Papilio Crocale, *Cramer, Pap. Exot.* I. *t.* 55, *f. C.D.*

a. b. c. ♂ ♀. Java. From Dr. Horsfield's Collection.

d. e. f. Var. ♀. Java. From Dr. Horsfield's Collection.

g. h. ♂ ♀. N. India. From the Asiatic Society of Bengal.

i. j. Var. ♀. India. From the Asiatic Society of Bengal.

"This species is very abundant in Java."—(Horsfield.)

The larva and pupa of *C. Alcmeone* are figured on Plate 1, fig. 7, 7*a*, discovered in Ceylon by E. L. Layard, Esq.

101. *CALLIDRYAS HILARIA, Cramer Sp.*

♂ Papilio Hilaria, *Cramer, Pap.* IV. *t.* 339, *f. A. B.* (1782).

Callidryas Hilaria, *Boisduval, Spéc. Gén. Lép.* I. *p.* 626. *Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 39; id. *Diurnal Lep. p.* 68.

♂ Colias Hilaria, *Godart, Enc. Méth.* IX. *p.* 97. *Horsfield, Cat. Lep. Mus. E.I.C. p.* 132.

Catopsilia Hilaria, *Hübner, Verz. bek. Schmett. p.* 98.

Papilio Titania, *Fabricius, Ent. Syst.* V. *p.* 28 (1793).

♀ Papilio Catilla, *Cramer, Pap.* III. *t.* 229, *f. D.E.* (1782). *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 209.

Colias Catilla, *Godart, Encycl. Méth.* IX. *p.* 95.

Var. ♀ Papilio Pomona, *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 213.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. ♂. Pinang. Presented by Dr. Cantor, 1844.

f. g. ♂ ♀. N. India. From the Asiatic Society of Bengal.

h. ♀. N. India. Presented by Colonel Buckley.

102. *CALLIDRYAS SCYLLA, Linnæus Sp.*

Papilio Scylla, *Linnæus, Syst. Nat.* II. *p.* 763 (1767). *Cramer, Pap.* I. *t.* 12, *f. C. D. Sulz., Ins. edit. Rœm. t.* 15, *f.* 6. *Fabricius, Spec. Ins.* II. *p.* 47 (♀); id. *Ent. Syst.* III. *pt.* I. *p.* 201. *Donovan, Ins. Ind. t.* .

Callidryas Scylla, *Boisduval, Spéc. Gén. Lép.* I. *p.* 631. *Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 40; id. *Diurnal Lep. p.* 68.

Colias Scylla, *Hübner, Verz. bek. Schmett. p.* 99. *Godart, Enc. Méth.* IX. *p.* 95. *Horsfield, Cat. Lep. Mus. E.I.C. p.* 133.

♂ Papilio Cornelia, *Fabricius, Mant. Ins.* II. *p.* 21 (1787).

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

"In Java, the larva of this species feeds on various species of *Cassia*, particularly on the *C. fistula* and *C. obtusifolia;* it is, however, occasionally found on other plants. It is extremely abundant, particularly in the early part of the rainy season, after the renewal of the foliage of these plants. I must, however, remark, that the various species of *Colias* resemble each other so closely in the larva state, that the distinction of species is extremely difficult. The greatest number of specimens obtained by breeding belong to this species (*C. Scylla*); but in examining the series put up in Java in illustration of the drawings prepared during the progress of this research, I observed several specimens of *C. Jugurthina* and *C. Alcmeone*, a circumstance which shows their near resemblance in the larva state. Among these specimens is contained that remarkable variety of *C. Jugurthina* figured by Cramer with the name of *Papilio Crocale*."—(Horsfield.)

The larva and pupa of *C. Scylla* are figured on Plate 1, fig. 9, 9*a*, from Java.

Genus GONEPTERYX, *Leach.*

GONEPTERYX, *Leach, Edinb. Enc.* IX. *p.* 128 (1815).

ANTEOS, *Hübner, Verz. p.* 99 (1816).

GONOPTERYX, *Boisduval, Spéc. Gén. Lép.* I. *p.* 598 (1836).

GONIAPTERYX, *Westwood, Introd. Syn. p.* 87 (1839).

RHODOCERA, *p. Boisduval.*

103. *GONEPTERYX NIPALENSIS, E. Doubleday.*

Gonepteryx Rhamni, *G. R. Gray, Lep. Ins. of Nepal, t.* 5, *f.* 1 (*nec. Linn.*).

Gonepteryx nepalensis, *E. Doubleday, Diurnal Lep. p.* 71, *n.* 9 (1847).

a. ♂. N. India. From the Asiatic Society of Bengal.

b. c. ♂ ♀. N. India. Presented by Colonel Hearsey.

d. ♂. Ladakh. Presented by Captain R. Strachey.

e. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

Genus DERCAS, *Boisduval.*

DERCAS, *Boisduval, MS.* (*Doubleday, Diurn. Lep. p.* 70, 1847).

104. *DERCAS VERHUELLI, Van der Hoeven Sp.*

Colias Verhuellii, *Van der Hoeven, Tijdschrift voor Nat. Gesch. t.* 8, *f.* 3, 4 (1838).

Dercas Verhuellii, *Boisduval, MS.*

Gonepteryx Verhuellii, *E. Doubleday, Diurnal Lep. t.* 8, *f.* 3, *p.* 71, *n.* 8; id. *List Lep. Brit. Mus. App. p.* 10 (1848).

♀ Rhodocera Lycorias, *E. Doubleday, Gray's Zool. Misc. p.* 77 (1842).

a. b. ♂ ♀. N. India. Purchased.

c. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

This genus differs from *Gonepteryx* (*Rhamni*) "in having the claws furnished with a distinct pulvillus, and in its much slenderer feet and antennæ."—(E. Doubleday.)

Genus HEBOMOIA, *Hübner*.

HEBOMOIA, *Hübner, Verz. bek. Schmett. p.* 95 (1816).
IPHIAS, *Boisduval, Spéc. Gén. Lép.* I. *p.* 595 (1836).
PIERIS, *p. Godart.*
COLIAS, *p. Horsfield.*

105. *HEBOMOIA GLAUCIPPE, Linnæus Sp.*

Papilio Glaucippe, *Linnæus, Syst. Nat.* II. *p.* 762 (1767). *Clerck, Icones, t.* 35, *f.* 1. *Drury, Ins.* I. *t.* 10, *f.* 3, 4 (1770). *Fabricius, Spec. Ins.* II. *p.* 45 (1781); id. *Ent. Syst.* III. *pt.* I. *p.* 198. *Cramer, Pap.* II. *t.* 164, *f. A.B.C.*

Hebomoia Glaucippe, *Hübner, Verz. bek. Schmett. p.* 95. *Doubleday, Diurnal Lep. p.* 63.

Pieris Glaucippe, *Godart, Enc. Méth.* IX. *p.* 119.

Colias Glaucippe, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 130.

Iphias Glaucippe, *Boisduval, Spéc. Gén. Lép.* I. *p.* 596. *Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 37.

a. b. ♂ ♀. Java. From Dr. Horsfield's Collection.
c. ♂. Borneo. Presented by H. Lowe, Esq.
d. e. ♂ ♀. Dukhun. Presented by Colonel Sykes.
f. ♂. N. India. Presented by Colonel Buckley.

"This genus, of which as yet we know but two species, is easily known by its large size, the gradually thickening antennæ, the peculiar form of the palpi, and the presence of a disco-cellular nervule. The minute terminal joints of the palpi and the form of the pupa indicate an affinity to *Anthocharis;* its antennæ and the form of the larva point out an equal one to [*Colias*] *Callidryas.*"—(Doubleday.)

"This insect is not unfrequent in Java; the larva feeds on a species of *Capparis*, distinguished by the native name of Wanwannan: February to April."—(Horsfield.)

The larva and pupa of *H. Glaucippe* are figured on Plate 1, fig. 10, 10*a;* from Java.

Genus ERONIA, *Hübner*.

ERONIA, *Hübner, Samml. Exot. Schmett.* (1806–27).
VALERIA, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 139 (1829).
MYLOTHRIS, *p. Hübner.*

106. *ERONIA VALERIA, Cramer Sp.*

♂ Papilio Valeria, *Cramer, Pap. Exot.* I. *t.* 85, *f. A.* (1779).
Eronia Valeria, *Doubleday, Diurnal Lep. p.* 65, *n.* 1.
Mancipium Vorax Valeria, *Hübner, Samml. Exot. Schmett. p.* (1806–27).
Acræa Valeria, *Hübner, Verz. bek. Schmett. p.* 93.
Pieris Valeria, *Godart, Enc. Méth.* IX. *p.* 154. *Boisduval, Spéc. Gén. Lép.* I. *p.* 444. *Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 25.
Pontia (Valeria) Valeria, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 139.
Pieris Hippia, *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 59 (1793).
Danais Hippia, *Godart, Enc. Méth.* IX. *p.* 193.
♀ Danais Anais, *Bougainville, Voy. de la Thétis, t.* 44, *f.* 2 (1837).
♀ Pieris Indica, *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 25 (1844).
Var. ♀ Papilio Philomela, *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 57.

a. b. ♂ ♀. Java. From Dr. Horsfield's Collection.
c. ♂. Borneo. Presented by H. Lowe, Esq.
d. e. ♂ ♀. Dukhun. Presented by Colonel Sykes.
f. ♀. N. India. From the Asiatic Society of Bengal.
g. h. ♀. N. India. Presented by Colonel Buckley.

107. *ERONIA AVATAR, Moore* (*Plate* IIa, *fig.* 1).

E. Avatar, n. sp.—Male, UPPER-SIDE greenish or bluish-white; *fore-wings*, with the anterior and exterior margins, and the veins, black; *hind-wings* along the exterior margin slightly undulated with black, which extends along the veinlets. UNDER-SIDE mother-o'-pearl-white, with the veinlets blackish.

a. b. c. d. ♂. N. India. Presented by Lieutenant Hugo James.
e. f. ♂. Darjeeling. From Messrs. Schlagintweit's Collection.

There appears to be no variation whatever in this species, eighteen specimens before me being all precisely alike.

Genus COLIAS, *Fabricius.*

Colias, *Fabricius* (*Illiger, Mag.* VI. *p.* 284, 1807). *Boisduval, Spéc. Gén. Lép.* I. *p.* 633. *Doubleday, Diurnal Lep.*

Colotis, Zerene, *Hübner, Verz.* (1816).

Eurymus (*Swainson*). *Horsfield, Cat. Lep. Mus. E.I.C. pp.* 129, 134 (1829); *Swains., Zool. Ill. 2nd ser. fol.* 60 (1832).

108. *COLIAS EDUSA, Fabricius.*

Papilio Edusa, *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 206 (1793). *Hübner, Europ. Schmett. Pap. f.* 429–31.

Colias Edusa, *Ochsenheimer, Schmett. von Eur.* IV. *pt.* II. *p.* 32. *Godart, Enc. Méth.* IX. *p.* 101. *Boisduval, Spéc. Gén. Lép.* I. *p.* 638. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 41; id. *Diurnal Lep. p.* 74, *n.* 7.

a. b. ♂. Bootan. From Pemberton's Collection.

c. d. e. f. ♂ ♀. N. India. Presented by Colonel Buckley.

g. ♀. N. India. Presented by Colonel Hearsey.

h. i. ♀. Darjeeling. From Pearson's Collection.

109. *COLIAS HYALE, Linnæus Sp.*

Papilio Hyale, *Linnæus, Syst. Nat.* II. *p.* 764 (1767). *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 207.

Eurymus Hyale, *Swainson. Horsfield, Cat. Lep. Mus. E.I.C. p.* 134 (1829).

Pieris Hyale, *Latreille, Gén. Crust. et Ins.* XIV. *p.* 113 (1805).

Colias Hyale, *Ochsenheimer, Schmett. von Europa,* IV. *p.* 32 (1816). *Godart, Enc. Méth.* IX. *p.* 33. *Boisduval, Spéc. Gén. Lép.* I. *p.* 650. *Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 147; id. *Diurnal Lep. p.* 75, *n.* 23.

Papilio Palæno, *Hübner, Eur. Schmett. Pap. f.* 438, 439.

a. b. c. ♂ ♀. Punjaub. Presented by Colonel Hearsey.

110. *COLIAS NERIENE, Fischer.*

Colias Neriene, *Fischer, Entomol. de la Russie Lép. t.* 11, *f.* 3, 4 (1820–22). *Boisduval, Spéc. Gén. Lép.* I.

p. 646. *Herr. Schæffer, f.* 30, 31, 32 (1844). *Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 147; id. *Diurnal Lep. p.* 74, *n.* 18.

a. b. c. ♂ ♀. N. India. Presented by Colonel Buckley.

d. e. f. g. ♂ ♀. Punjaub. Presented by Colonel Hearsey.

Genus TERIAS, *Swainson.*

TERIAS, *Swainson, Zool. Ill.* 1*st ser. text to t.* 22 (1820). *Horsfield.* XANTHIDIA, *Boisduval et Léconte, Icon. Lép. Am. Sept. p.* 48 (1828). LEPTOSIA, EUREMA, ABAËIS, *Hübner, Verz.* (1816).

111. *TERIAS HECABE, Linnæus Sp.*

Papilio Hecabe, *Linnæus, Syst. Nat.* II. *p.* 763 (1767). *Cramer, Pap. Exot.* II. *t.* 124, *f. B.C. Fabricius, Spec. Ins.* II. *p.* 42; *Ent. Syst.* III. *pt.* I. *p.* 192. *Sulz., Ins. edit. Roem. t.* 15, *f.* 7.

Terias Hecabe, *Swainson, Zool. Ill.* 1*st ser. t.* 22. *Horsfield, Cat. Lep. Mus. E.I.C. p.* 135. *Boisduval, Spéc. Gén. Lép.* I. *p.* 669. *Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 44; id. *Diurn. Lep. p.* 79, *n.* 29.

Pieris Hecabe, *Godart, Enc. Méth.* IX. *p.* 134.

a. b. ♂ ♀. Java. From Dr. Horsfield's Collection.

c. d. ♂. N. India. From the Asiatic Society of Bengal.

d. ♀. Bootan. From Pemberton's Collection.

e. ♂. Darjeeling. From Pearson's Collection.

f. ♀. Canara (S. India). Presented by S. N. Ward, Esq.

"This is one of the most common species of diurnal Lepidoptera, having a wide range through intratropical Asia and the Eastern Islands. In Java, it was frequently obtained by breeding, and the larva feeds on the *Æschynomene Sesban*, and is found abundantly from January to April."—(Horsfield.)

The larva and pupa of *T. Hecabe* are figured on Plate 1, fig. 11, 11*a*; from Java.

112. *TERIAS SARI, Horsfield.*

Terias Sari, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 136 (1829).

Terias Hecabe, var. ♀, *Boisduval, Spéc. Gén. Lép.* I. *p.* 669. *Doubleday, Diurnal Lep. p.* 79, *n.* 29.

a. ♀. Java. From Dr. Horsfield's Collection.

b. c. Borneo. Presented by Hugh Lowe, Esq.

"Clearly distinguished from *T. Hecabe* by the breadth and interior outline of the posterior border of the fore-wings above, as well as by the large quadrangular apical spot and the peculiarity of the markings underneath."—(Horsfield.)

113. *TERIAS TILAHA, Horsfield.*

Terias Tilaha, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 136 (1829). *Boisduval, Spéc. Gén. Lép.* I. *p.* 668. *E. Doubleday, Diurnal Lep. p.* 79, *n.* 28; id. *List Lep. Brit. Mus. App. p.* 11.

a. ♀. Java. From Dr. Horsfield's Collection.

114. *TERIAS BLANDA, Boisduval.*

Terias Blanda, *Boisduval, Spéc. Gén. Lép.* I. *p.* 672 (1836). *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 45; id. *Diurnal Lep. p.* 79, *n.* 35.

a. ♂. China. Presented by the Trustees of the British Museum.

b. ♂. Darjeeling. From the Indian Collection, Exposition Universelle at Paris, 1855.

115. *TERIAS HARINA, Horsfield.*

Terias Harina, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 137 (1829). *Boisduval, Spéc. Gén. Lep.* I. *p.* 668. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 44; id. *Diurnal Lep. p.* 79, *n.* 27.

a. b. ♂ ♀. Java. From Dr. Horsfield's Collection.

c. d. e. ♂. Darjeeling. From the Indian Collection, Exposition Universelle at Paris, 1855.

116. *TERIAS LÆTA, Boisduval.*

Terias Læta, *Boisduval, Spéc. Gén. Lép.* I. *p.* 674 (1836). *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 45; id. *Diurnal Lep. p.* 79, *n.* 39.

a. b. ♂ ♀. Bootan. From Pemberton's Collection.
c. d. ♂ ♀. N. India. Presented by Colonel Buckley.
e. ♂. N. India. Presented by Colonel Hearsey.
f. g. Darjeeling. From the Indian Collection, Exposition Universelle at Paris, 1855.

117. *TERIAS VENATA, Moore* (*Plate* II*a., fig.* 2).

T. Venata, n. sp.—Intermediate in shape between *T. Læta* and *T. Drona*, having the *fore-wings* less sharply produced at the anterior angle than in *T. Læta*, yet more so than in *T. Drona;* markings on the UPPER-SIDE of the *fore-wings* as in *T. Læta*, but the brown border extending to the posterior angle; *hind-wings* narrowly bordered with brown; UNDER-SIDE clear yellow, with only a disco-cellular dot, and one between each veinlet on the outer margin of both wings. Expanse of wings 1¼ in.

a. b. c. N. India. Presented by Colonel Hearsey.

118. *TERIAS DRONA, Horsfield.*

Terias Drona, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 137, *t.* 1, *f.* 13 (1829). *Boisduval, Spéc. Gén. Lép.* I. *p.* 675. *E. Doubleday, Diurnal Lep. p.* 79, *n.* 40.

a. ♂. Java. From Dr. Horsfield's Collection.
b. c. d. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

Genus THESTIAS, *Boisduval.*

THESTIAS, *Boisduval, Spéc. Gén. Lép.* I. *p.* 590 (1836).
IXIAS, *Hübner, Verz. bek. Schmett. p.* 95 (1816).*
PIERIS, *p. Latreille, Godart.*
PONTIA, *p. Horsfield.*

* This name being so near that of Ixia, employed in Botany, cannot be retained.

119. *THESTIAS ÆNIPPE, Cramer Sp.*

Papilio Ænippe, *Cramer, Pap.* II. *t.* 105, *f. C.D. t.* 229, *f. B.C.* (1779). *Fabricius, Spec. Ins.* II. *p.* 48; *Ent. Syst.* III. *pt.* I. *p.* 204.

Thestias Ænippe, *Boisduval, Spéc. Gén. Lép.* I. *p.* 591. *Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 36; id. *Diurnal Lep. p.* 61, *n.* 1.

Ixias Ænippe, *Hübner, Verz. bek. Schmett. p.* 95.

Pieris Ænippe, *Godart, Enc. Méth.* IX. *p.* 120.

Pontia Ænippe, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 143.

a. b. c. ♂ ♀. Bootan. From Pemberton's Collection.

d. ♀. Darjeeling. From Messrs. Schlagintweit's Collection.

f. g. ♀ var. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

120. *THESTIAS MARIANNE, Cramer Sp.*

Papilio Marianne, *Cramer, Pap.* III. *t.* 217, *f. C.D.E.* (1780).

Thestias Marianne, *Boisduval, Spéc. Gén. Lép.* I. *p.* 592. *Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 36; id. *Diurnal Lep. p.* 61, *n.* 2.

Ixias Marianne, *Hübner, Verz. bek. Schmett. p.* 95.

Pieris Marianne, *Godart, Enc. Méth.* IX. *p.* 120.

Pontia Marianne, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 142.

Papilio Sesia, *Fabricius, Spec. Ins.* II. *p.* 47 (1781).

Ixias Bebryce, *Hübner, Verz. bek. Schmett. p.* 95 (1816).

a. b. ♂ ♀. N. India. Presented by Colonel Hearsey.

c. ♂. N. India. Presented by Colonel Buckley.

d. e. ♂ ♀. Madras. From Captain J. M. Jones's Collection, 1856.

121. *THESTIAS PYRENE, Linnæus Sp.*

Papilio Pyrene, *Linnæus, Syst. Nat.* II. *p.* 762 (1767). *Cramer, Pap.* II. *t.* 125, *f. A.B.C.*

Thestias Pyrene, *Boisduval, Spéc. Gén. Lép.* I. *p.* 593. *Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 36; id. *Diurnal Lep. p.* 61, *n.* 3.

Ixias Pyrene, *Hübner, Verz. bek. Schmett. p.* 95.

Pieris Pyrene, *Godart, Enc. Méth.* IX. *p.* 120.
Pontia Pyrene, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 143.
Papilio Rhexia, *Fabricius, Mant. Ins.* II. *p.* 23 (1787).
Ixias Anexibia, *Hübner, Verz. bek. Schmett. p.* 95 (1816).

a. ♂. Silhet. Presented by Colonel Buckley.
b. ♀. Assam. Donor unknown.
c. ♀. Darjeeling. From Pearson's Collection.
d. e. ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

122. *THESTIAS VENILIA, Godart Sp.*

Pieris Venilia, *Godart, Enc. Méth.* IX. *p.* 121 (1819).
Thestia Venilia, *Boisduval, Spéc. Gén. Lép.* I. *p.* 594. *Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 36; id. *Diurnal Lep. p.* 61, *n.* 5.
Pontia Venilia, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 143.
♀ Papilio Ænippe, *apud Cramer*, II. *t.* 157, *f. C. D.*
♂ Thestias Balidia, *Boisduval, MS. Mus. E.I.C.*

a. b. ♂ ♀. Java. From Dr. Horsfield's Collection.

Genus IDMAIS, *Boisduval.*

Idmais, *Boisduval, Spéc. Gén. Lép.* I. *p.* 59 (1836).
Mancipium, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 141 (1829).

123. *IDMAIS CALAIS, Cramer Sp.*

♂ ♀ Papilio Calais, *Cramer, Pap.* I. *t.* 53, *f. C. D.* (1779); *t.* 351, *f. A—D.*
Idmais Calais, *Boisduval, Spéc. Gén. Lép.* I. *p.* 587. *Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 36; id. *Diurnal Lep. p.* 59, *n.* 4.
♂ Papilio Amata, *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 202 (1793).
Pieris Amata, *Godart, Enc. Méth.* IX. *p.* 131.
Pontia (Mancipium) Amata, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 141.
♀ Papilio Cipræa, *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 202.

a. b. c. d. India. Donor unknown.
e. f. Madras. From Captain J. M. Jones's Collection.

124. *IDMAIS PHISADIA, Godart Sp.*

Pieris Phisadia, *Godart, Enc. Méth.* IX. *p.* 132 (1819).

Idmais Phisadia, *Boisduval, Spéc. Gén. Lép.* I. *p.* 587. *Doubleday, Diurnal Lep. p.* 59, *No.* 3.

Pontia Arne, *Klug, Ehrenb. Symb. Phys. Ins. t.* 7, *f.* 1—4 (1829–45).

a. b. c. d. N. India. Donor unknown.

125. *IDMAIS DYNAMENE, Klug Sp.*

Pontia Dynamene, *Klug, Ehrenb. Symb. Phys. Ins. t.* 7, *f.* 5, 6 (1829–45).

Idmais Dynamene, *Boisduval, Spéc. Gén. Lép.* I. *p.* 588. *Doubleday, Diurnal Lep. p.* 59, *n.* 5.

a. b. c. Punjaub. Presented by Colonel Hearsey.

126. *IDMAIS FAUSTA, Olivier Sp.*

Pieris Fausta, *Oliv., Voy. en Syrie, t.* 33, *f.* 4 (1801–7).

Idmais Fausta, *Boisduval, Spéc. Gén. Lép.* I. *p.* 586. *Doubleday, Diurnal Lep. p.* 59, *n.* 2.

Pieris Fausta, *Godart, Enc. Méth.* IX. *p.* 132 (1819).

a. ♂. Punjaub. Presented by Colonel Hearsey.

b. ♂. N. W. India. Donor unknown.

Genus CALLOSUNE, *E. Doubleday.*

Anthocharis (Callosune), *Doubleday, Diurnal Lep. p.* 57 (1847).

Euchloë, Aphrodite, *p. Hübner.*

Mancipium, *p. Horsfield.*

127. *CALLOSUNE EUCHARIS, Fabricius Sp.*

Papilio Eucharis, *Fabricius, Syst. Ent. p.* 472 (1775).

Anthocharis (Callosune) Eucharis, *Doubleday, Diurnal Lep. p.* 57, *n.* 15.

Pieris Eucharis, *Godart, Enc. Méth.* IX. *p.* 124.

Anthocharis Eucharis, *Boisduval, Spéc. Gén. Lép.* I. *p.* 568. *Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 35.

Papilio Aurora, *Cramer, Pap.* III. *t.* 299, *f. A—D.* (1782).

Pieris Titea, *Godart, Enc. Méth.* IX. *p.* 124 (1819).

Pontia (Mancipium) Titea, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 141.

Euchloë Coëneos, *Hübner, Verz. bek. Schmett. p.* 94 (1816).

a. b. India. Donor unknown.

c. Madras. Donor unknown.

d. Madras. From Captain J. M. Jones's Collection, 1856.

128. *CALLOSUNE DANAË, Fabricius Sp.*

Papilio Danaë, *Fabricius, Mant. Ins.* II. *p.* 22; *Syst. Ent. p.* 476 (1775). *Donovan, Ins. of Ind. t.*

Anthocharis (Callosune) Danaë, *Doubleday, Diurnal Lep. p.* 57, *n.* 17.

Pieris Danaë, *Godart, Enc. Méth.* IX. *p.* 124.

Pontia (Mancipium) Danaë, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 141.

Anthocharis Danaë, *Boisduval, Spéc. Gén.* I. *p.* 570. *Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 35.

Papilio Eborea, *Cramer, Pap.* IV. *t.* 352, *f. C—F.* (1782).

Aphrodite Eborea, *Hübner, Verz. bek. Schmett. p.* 94.

a. b. c. ♂ ♀. India. Donor unknown.

d. ♀. Madras. From Captain J. M. Jones's Collection, 1856.

129. *CALLOSUNE ETRIDA, Boisduval Sp.*

Anthocharis Etrida, *Boisduval, Spéc. Gén. Lép.* I. *p.* 576 (1836).

Anthocharis (Callosune) Etrida, *Doubleday, Diurnal Lep. p.* 57, *n.* 25.

a. b. c. d. e. f. ♂ ♀. N. India. Presented by Colonel Hearsey.

Genus PONTIA, *Fabricius.*

Pontia, *Fabricius. McLeay. Boisduval, Spéc. Gén. Lép.* I. *p.* 430 (1836).

Nina, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 140 (1829).

130. *PONTIA NINA, Fabricius.*

Papilio Nina, *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 194 (1793).

Pontia Nina, *Boisduval, Spéc. Gén. Lép.* I. *p.* 431. *Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 24; *Diurnal Lep. p.* 40, *n.* 2.

Pieris Nina, *Godart, Enc. Méth.* IX. *p.* 162.

Pontia (Nina) Nina, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 140.

Papilio Xiphia, *Fabricius, Mant. Ins.* II. *p.* 20 (1787).

Leptosia chlorographa (var.), *Hübner, Zuträge, n.* 47, 48 (1818).

a. b. c. ♂ ♀. Java. From Dr. Horsfield's Collection.

d. ♂. Canara. Presented by S. N. Ward, Esq.

e. ♀. N. India. Presented by Colonel Buckley.

f. ♂. N. India. Presented by Colonel Hearsey.

Genus PIERIS, *Schrank.*

Pieris, C. *p. Schrank, F. B.* II. I. *p.* 164 (1801). *Boisduval, Spéc. Gén. Lép.* I. *p.* 434. *Doubleday, Diurnal Lep. p.* 42.

Mylothris, Appias, Perryhybris, Delias, Cathæmia, Pontia, Belenois, Acræa, Anaphæa, Catophaga, Synchloë, *Hübner, Verz.* (1816).

Leuconia, *Donzel, Ann. Soc. France,* VI. (1837).

Pieris, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 127 (1829).

Pontia, *p. Horsfield.*

131. *PIERIS NERO, Fabricius Sp.*

♂ Papilio Nero, *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 153 (1793). *Donovan, Ins. of India, fig.*

Pieris Nero, *Boisduval, Spéc. Gén. Lép.* I. *p.* 485. *Doubleday, Cat. Lep. Brit. Mus. p.* 28; *Diurnal Lep. p.* 51, *n.* 155.

♀ Pieris Thyria, *Godart, Enc. Méth.* IX. *p.* 147 (1819). *Guérin, Icon. Règ. An. Ins. t.* 77, *f.* 1.

Pontia Thyria, *Horsfield, Zool. Journ.* IV. *p.* 69, *t.* 4, *f.* 2 (1829).

a. b. ♂ ♀. Java. From Dr. Horsfield's Collection.

c. d. Presented by T. Tatum, Esq.

132. *PIERIS ROUXI, Boisduval.*

Pieris Rouxii, *Boisduval, Spéc. Gén. Lép.* I. *p.* 481 (1836). *Doubleday, Diurnal Lep. p.* 50, *n.* 148.

Pieris Namouna, *Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 281 (1844).

a. b. c. ♂ ♀. Java. From Dr. Horsfield's Collection.

d. e. f. ♂ ♀. Borneo. Presented by H. Lowe, Esq.

g. Bootan. From Pemberton's Collection.

h. Madras. From Wight's Collection.

133. *PIERIS PANDA, Godart Sp.*

Pieris Panda, *Godart, Enc. Méth.* IX. *p.* 147 (1819). *Boisduval, Spéc. Gén. Lép.* I. *p.* 485. *Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 28; *Diurnal Lep. p.* 50, *n.* 154.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

134. *PIERIS HIPPO, Cramer Sp.*

♀ Papilio Hippo, *Cramer, Pap.* III. *t.* 195, *f. B.C.* (1782).

Pieris Hippo, *Godart, Enc. Méth.* IX. *p.* 143. *Boisduval, Spéc. Gén. Lép.* I. *p.* 534. *Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 32.

♂ Papilio Phryne, *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 196 (1793).

Pieris Phryne, *Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 28; *Diurnal Lep. p.* 50, *n.* 149.

Pieris Eleonora, *Boisduval, Spéc. Gén. Lép.* I. *p.* 481 (1836).

Pieris Enyo, *Boisduval, Spéc. Gén. Lép.* I. *p.* 481 (1836).

? ♂ Papilio Lyncida, *Cramer, Pap.* II. *t.* 131, *f. B.* (1779).

a. b. c. d. e. ♂ ♀. Java. From Dr. Horsfield's Collection.

f. ♂. Bootan. From Pemberton's Collection.

g. h. ♂ ♀. Silhet. Presented by Colonel Buckley.

i. j. ♂. Darjeeling. From Messrs. Schlagintweit's Collection.

135. *PIERIS NERISSA, Fabricius Sp.*

Papilio Nerissa, *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 192 (1793).

Pieris Nerissa, *Godart, Enc. Méth.* IX. *p.* 142. *Boisduval, Spéc. Gén. Lép.* I. *p.* 535. *Doubleday, Diurnal Lep. p.* 50, *n.* 142.

Acræa Nerissa, *Hübner, Verz. bek. Schmett. p.* 93.

a. ♂. Assam. Donor unknown.

136. *PIERIS EGA, Boisduval.*

Pieris Ega, *Boisduval, Spéc. Gén. Lép.* I. *p.* 536 (1836). *Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 32.

a. b. Canara. Presented by S. N. Ward, Esq.

c. N. India. Donor unknown.

137. *PIERIS NEOMBO, Boisduval* (*Plate* IIa., *fig.* 3, ♀).

Pieris Neombo, *Boisduval, Spéc. Gén. Lép.* I. *p.* 539 (1839). *Doubleday, Diurnal Lep. p.* 50, *n.* 135.

a. b. ♂ ♀. Java. From Dr. Horsfield's Collection.

138. *PIERIS MESENTINA, Cramer Sp.*

Papilio Mesentina, *Cramer, Pap.* III. *t.* 270, *f. A.B.* (1782).

Pieris Mesentina, *Godart, Enc. Méth.* IX. *p.* 130. *Boisduval, Spéc. Gén. Lép.* I. *p.* 501. *Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 30; *Diurnal Lep. p.* 46, *n.* 50.

Pontia Mesentina, *Horsfield, Cat. Lep. Mus. E. I. C. p.* 142.

Papilio Aurota, *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 197 (1793).

a. b. ♂ ♀. N. India. From the Asiatic Society of Bengal.

c. d. e. f. ♂ ♀. N. India. Presented by Colonel Hearsey.

g. ♀, with black borders. Madras. From Captain J. M. Jones's Collection, 1856.

139. *PIERIS LIBYTHEA, Fabricius Sp.*

Papilio Libythea, *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 190 (1793). *Donovan, Ins. Ind. t.*

Pieris Libythea, *Doubleday, Diurnal Lep. p.* 46, *n.* 44.

Pieris Libitina, *Godart, Enc. Méth.* IX. *p.* 133 (1819). *Boisduval, Spéc. Gén. Lép.* I. *p.* 499.

? Papilio Zelmira, *Cramer, Pap.* IV. *t.* 320, *f. C—F.* (1782).

a. b. ♂ ♀. India. Donor unknown.

c. ♂. N. India. Presented by Colonel Hearsey.

140. *PIERIS PANDIONE, Hübner Sp.*

Hiposcritia Pandione, *Hübner, Zuträge, f.* 651–2 (1826).

Pieris Pandione, *Boisduval, Spéc. Gén. Lép.* I. *p.* 537. *Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 32; *Diurnal Lep. p.* 50, *n.* 136.

a. ♂. Java. From Dr. Horsfield's Collection.

b. c. d. ♂ ♀. N. India (?). Purchased.

141. *PIERIS PAULINA, Cramer Sp.*

Papilio Paulina, *Cramer, Pap.* II. *t.* 110, *f. E.F.* (1779). *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 189.

Pieris Paulina, *Godart, Enc. Méth.* IX. *p.* 142. *Boisduval, Spéc. Gén. Lép.* I. *p.* 538. *Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 33; *Diurnal Lep. p.* 50, *n.* 137.

Catophaga Leis, *Hübner, Zuträge, f.* 771, 772 (1827).

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. ♂. Borneo. Presented by H. Lowe, Esq.

f. g. ♂ ♀. N. India. Purchased.

h. i. ♂ ♀. Darjeeling. From the Messrs. Schlagintweit's Collection.

142. *PIERIS DURVASA, Moore.*

Pieris Durvasa, *Moore, Proc. Zool. Soc.* (1857), *p.* ; *Annulosa, t.* , *f.* 6.

a. b. c. d. ♂ ♀. Darjeeling. From Messrs. Schlagintweit's Collection.

e. f. ♀. Assam. From McClelland's Collection.

Pieris Durvasa, n. sp.—UPPER-SIDE white; male, *fore-wing*, from middle of costal margin, curving transversely, apically, and scolloped to near end of outer margin, black, and having near the apex some white marks, generally three, the outer ones being sometimes indistinct; base of costal margin and body greenish; on the middle of disco-cellular veinlets is a round black spot, and another more quadrate spot between the first and second median veinlets, the latter spot slightly touching the scolloped black outer margin. Female, black colour broader; the quadrate spot larger and broadly confluent at the outer angle's angles with the outer margin, thus forming a white spot on middle of outer margin; *hind-wing* of female with a marginal row of blackish spots, the extreme margin and anal angle being yellowish-white. UNDER-SIDE, apex of *fore-wing* pale yellow, the black forming only a curved transverse bar, besides the two black spots; *hind-wing* wholly pale yellow, and having a small disco-cellular black spot; body yellowish. Form of wings as in *P. Paulina* and *P. Pandione*. Expanse of wings $2\frac{1}{4}$ in. to $3\frac{3}{5}$ in.

143. *PIERIS INDRA, Moore.*

Pieris Indra, *Moore, Proc. Zool. Soc.* (1857), *p.* ; *Annulosa, t.* , *f.* 5.

a. ♀. Darjeeling. From Messrs. Schlagintweit's Collection.

Pieris Indra, n. sp.—UPPER-SIDE dark brown; *fore-wing* with a central longitudinal space of white from the base, also two small white spots near anterior angle; *hind-wing* with the anterior base brownish greenish-white, also with two white spots near anterior angle. UNDER-SIDE, *fore-wing* with a broad irregular fascia from middle of anterior margin to posterior angle; anterior angle chrome-yellow, with some white parting the two colours; basal half white, tinged with straw-yellow along discoidal cell; *hind-wing* chrome-yellow, minutely irrorated with brown; anterior half of discoidal cell and space between each veinlet near outer margin white, also a dark brown dot on disco-cellular veinlet. Wings shaped as in *P. Paulina*, Fabr. Expanse of wings 3 in.

Remark.—The nearest ally of *Pieris Indra* appears to be *P. Lalage*, Doubleday, Diurnal Lep. t. VI. fig. 5.

144. *PIERIS NIPALENSIS, G. R. Gray.*

Pieris Nipalensis, *G. R. Gray, Lep. Ins. Nepal, p.* 9, *t.* 6, *f.* 1, 3 (1832).

Pieris Brassicæ, *Linnæus*, var. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 32.

a. ♂. Bootan. From Pemberton's Collection.

b. ♀. N. India. Presented by Colonel Hearsey.

c. ♂. Madras. From Wight's Collection.

145. *PIERIS GLICIRIA, Cramer Sp.*

Papilio Gliciria, *Cramer, Pap. Exot.* II. *t.* 171, *f. E. F.* (1779).

Pieris Gliciria, *Boisduval, Spéc. Gén. Lép.* I. *p.* 524. *Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 32; *Diurnal Lep. p.* 48, *n.* 102.

Catophaga Gliciria, *Hübner, Verz. bek. Schmett. p.* 93.

Pieris Glaphyra, *Godart, Enc. Méth.* IX. *p.* 160 (1819).

a. ♂. Assam. From McClelland's Collection.

b. ♀. Bootan. From Pemberton's Collection.

c. ♀. N. India. Presented by Colonel Buckley.

d. ♀. Chusan. Presented by Dr. Cantor, 1844.

146. *PIERIS DAPLIDICE, Linnæus Sp.*

Papilio Daplidice, *Linnæus, Syst. Nat.* II. *p.* 760 (1767). *Fabricius, Ent. Syst.* III. I. *p.* 191. *Hübner, Eur. Schmett. Pap. f.* 414, 415.

Pieris Daplidice, *Godart, Enc. Méth.* IX. *p.* 128. *Boisduval, Spéc. Gén. Lép.* I. *p.* 544. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 33; id. *Diurnal Lep. p.* 48, *No.* 95.

Synchloë Daplidice, *Hübner, Verz. bek. Schmett. p.* 94.

a. ♀. N. India. Presented by Colonel Hearsey.

Several other specimens of *P. Daplidice* are in the collections of Colonel Hearsey and J. O. Westwood, Esq.

147. *PIERIS REMBA, Moore.*

Pieris Remba, n. sp.—UPPER-SIDE pale yellowish-white; anterior half of fore-wing blackish-brown; some blackish on outer margin of

hind-wing. UNDER-SIDE, broadly along costal margin and anterior half of fore-wing dull greenish-yellow, smeared with blackish; rest white; hind-wing dull greenish-yellow, smeared with darker colour. Shape of wings as in *P. Coronis*, Fabr. Expanse of wings $2\frac{3}{8}$ in.

a. Canara, Malabar Coast. Presented by S. N. Ward, Esq.

148. *PIERIS NAMA, Doubleday.*

♂ Pieris Nama, *Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 28 (1844); *Diurnal Lep. p.* 46, *n.* 38. *Moore, Proc. Zool. Soc.* (1857); *Annulosa, t.* , *f.* 1, 2, ♂ ♀.

a. ♂. Silhet. Presented by the Trustees of the British Museum.

b. ♂. Darjeeling. From Pearson's Collection.

c. ♂. Bootan. From Pemberton's Collection.

d. ♂. *e. f. g.* ♀. Darjeeling. From Messrs. Schlagintweit's Collection.

Pieris Nama.—Male, UPPER-SIDE white; *fore-wing* with a narrow brown line along anterior margin, curving and widening across near the middle of wing, and again tapering to posterior angle; *hind-wing* tinged with blackish (as if from intensity of that colour on the under-side) along outer margin, where the veinlets are dark brown. Female, brown, with three longitudinal white streaks in middle of fore-wing, and two in the hind-wing, these streaks in some specimens being confluent, and occupying nearly the whole of the middle of both fore and hind-wings. UNDER-SIDE, along anterior, and widening to the outer margin of fore-wing, greenish-yellow, the rest white; hind-wing greenish yellow, darker on the veins, and nearly white along discoidal cell towards anterior angle. Expanse of wings from $2\frac{1}{4}$ to 3 in.

149. *PIERIS CORONIS, Cramer Sp.*

Papilio Coronis, *Cramer, Pap.* I. *t.* 44, *f. B.* (1779). *Fabricius, Spec. Ins.* II. *p.* 45; *Ent. Syst.* III. *pt.* I. *p.* 198.

Pieris Coronis, *Godart, Enc. Méth.* IX. *p.* 132. *Boisduval, Spéc. Gén. Lép.* I. *p.* 471. *Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 27; *Diurnal Lep. p.* 46, *n.* 35.

Pontia Coronis, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 144, *t.* 4, *f.* 9, *larva*,—9*a*, *pupa*.

Var. Papilio Evagete, *Cramer, Pap.* III. *t.* 221, *f. F. G.* (1782).

Var. Papilio Zeuzippe, *Cramer, Pap.* IV. *t.* 362, *f. E. F.* (1782).

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. ♀. Dukhun. Presented by Colonel Sykes.

f. g. ♂ ♀. N. India. From the Asiatic Society of Bengal.

The larva and pupa of *P. Coronis* are figured on Plate 1, fig. 12, 12*a*, from Java.

150. *PIERIS JUDITH, Fabricius Sp.*

Papilio Judith, *Fabricius, Mant. Ins.* II. *p.* 22 (1787); *Ent. Syst.* III. *pt.* I. *p.* 202. *Donovan, Ins. Ind. t.*

Pieris Judith, *Godart, Enc. Méth.* IX. *p.* 121. *Boisduval, Spéc. Gén. Lép.* I. *p.* 468. *Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 27; *Diurnal Lep. p.* 45, *n.* 30.

Pontia Judith, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 144.

Acræa Judith, *Hübner, Zuträge, f.* 669, 670.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. ♀. Pinang. Presented by Dr. Cantor, 1844.

"This species is very abundant in Java."—(Dr. Horsfield.)

151. *PIERIS LEA, E. Doubleday.*

Pieris Lea, *Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 27 (1844); *Ann. N. H.* XVII. *p.* 23 (1846); *Diurnal Lep. p.* 45, *n.* 31.

Pieris Clemanthe, *Doubleday, Diurnal Lep. t.* 6, *f.* 3 (1847).

a. ♂. Borneo. Presented by the Trustees of the British Museum.

b. c. d. ♂ ♀. Borneo. Presented by Hugh Lowe, Esq.

PIERIS, *Horsfield.*

152. *PIERIS THESTYLIS, E. Doubleday.*

Pieris Thestylis, *E. Doubleday, Gray's Zool. Misc. p.* 76 (1842); *List Lep. Brit. Mus. pt.* I. *p.* 25; *Diurnal Lep. p.* 44, *n.* 1.

a. b. ♂ ♀. Assam. Presented by Colonel Buckley.

c. ♀. Bootan. From Pemberton's Collection.

d. e. f. ♂ ♀. Darjeeling. From Messrs. Schlagintweit's Collection.

153. *PIERIS SETA, Moore.*

Pieris Seta, *Moore, Proc. Zool. Soc.* (1857), *p.* ; *Annulosa, t.* , *f.* 3.

a. ♀. Bootan. From Pemberton's Collection.

Pieris Seta, n. sp.—UPPER-SIDE blackish-brown; *fore-wing* with two rows of narrowish white marks, two lengthened marks between median and submedian veinlets, and four small spots within discoidal cell; *hind-wing* with a marginal row of whitish spots; another row from anterior margin widening towards the anal angle; abdominal margin broadly whitish, the latter tinged with yellow; also a white linear mark in discoidal cell. UNDER-SIDE as in the upper-side, but with all the markings on the hind-wings yellow. Wings shaped as in *P. Thestylis*, Doubleday. Expanse $3\frac{1}{8}$ in.

154. *PIERIS BELLADONNA, Fabricius Sp.*

Papilio Belladonna, *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 180 (1793). *Donovan, Nat. Rep. t.* 35 (1823).

Pieris Belladonna, *Boisduval, Spéc. Gén. Lép.* I. *p.* 447. *Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 25; *Diurnal Lep. p.* 44, *n.* 2.

Pieris Horsfieldii, *G. R. Gray, Gray's Zool. Misc. p.* 32 (1832); *Lep. Ins. Nepal, p.* 7, *t.* 8, *f.* 2. *Boisduval, Spéc. Gén. Lép.* I. *p.* 448. *Herr. Schœffer, Pap. Exot. liv.* I. *f.* 13, 14 (1853).

a. b. c. ♂ ♀. Darjeeling. From Pearson's Collection.

d. ♂. N. India. Presented by Colonel Buckley.

e. f. ♂ ♀. Darjeeling. From Messrs. Schlagintweit's Collection.

155. *PIERIS SANACA, Moore.*

Pieris Sanaca, *Moore, Proc. Zool. Soc.* (1857), *p.* ; *Annulosa, t.* , *f.* 4.

a. b. Darjeeling Presented by Colonel Buckley.

Pieris Sanaca, n. sp.—UPPER-SIDE white; *fore-wing* with the veins and veinlets broadly clouded with black, leaving only a row of lanceolate white spots on the outer margin, and another row of more linear marks extending across the disc; *hind-wing* with the veins and veinlets sharply defined with black; discoidal and median veins clouded with black, the latter broadly so; also a marginal row of angular lunate marks; anterior base and anal angle bright yellow. UNDER-SIDE, *fore-wing* as in the upper-side, but the white markings more clearly defined, those near the anterior angle being yellowish; *hind-wing* with the dark colour broader, and the white spaces nearly covered with yellow. Shape of wings as in *P. Belladonna.* Expanse 3¼ in.

156. *PIERIS CRITHOË, Boisduval.*

Pieris Crithoë, *Boisduval, in Guérin et Perch, Gén. Lép. t.* , *f.* (18—); id. *Spéc. Gén. Lép.* I. *p.* 450 (1836). *Doubleday, List Lep. Brit. Mus. pt.* I. *App. p.* 7; *Diurnal Lep. p.* 44, *n.* 3.

a. ♀. Java. From Dr. Horsfield's Collection.

157. *PIERIS EGIALEA, Cramer Sp.*

Papilio Egialea, *Cramer, Pap.* II. *t.* 189, *f. D.E.* (1779); id. III. *t.* 253, *f. E.F.*

Pieris Egialea, *Boisduval, Spéc. Gén. Lép.* I. *p.* 450. *Doubleday, List Lep. Brit. Mus. pt.* I. *App. p.* 7; *Diurnal Lep. p.* 44, *n.* 4.

Delias Apriate, *Hübner, Verz. bek. Schmett. p.* 91 (1816).

Pieris Pasithoë, var., *Godart, Enc. Méth.* IX. *p.* 148.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

158. *PIERIS PASITHOË, Linnæus Sp.*

Papilio Pasithoë, *Linnæus, S. N.* II. *p.* 755 (1767). *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 179.

Pieris Pasithoë, *Godart, Enc. Méth.* IX. *p.* 148. *Bois-*

duval, Spéc. Gén. Lép. I. *p.* 451. *Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 26; *Diurnal Lep. p.* 44, *n.* 5.

Delias Pasithoë, *Hübner, Verz. bek. Schmett. p.* 91.

Papilio Porsenna, *Cramer, Pap.* I. *t.* 43, *f. D.E.* (1779); id. IV. *t.* 352, *f. A.B.*

a. b. ♂ ♀. Dukhun. Presented by Colonel Sykes.

159. *PIERIS THISBE, Cramer Sp.*

Papilio Thisbe, *Cramer, Pap.* III. *t.* 233, *f. C.* (1782).

Pieris Thisbe, *Boisduval, Spéc. Gén. Lép.* I. *p.* 449. *Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 25; *Diurnal Lep. p.* 44, *n.* 6. *G. R. Gray, Lep. Ins. of Nepal, p.* 8, *t.* 7, *f.* 1.

Pieris Acalis, *Godart, Enc. Méth.* IX. *p.* 148 (1819).

a. b. ♂ ♀. Darjeeling. From Pearson's Collection.

160. *PIERIS EUCHARIS, Drury Sp.*

Papilio Eucharis, *Drury, Ins.* II. *t.* 10, *f.* 5, 6 (1773). *Cramer, Pap.* III. *t.* 201, *f. B.C.*; *t.* 202, *f. C.*

Pieris Eucharis, *Doubleday, Diurnal Lep. p.* 44, *n.* 10.

Pontia Eucharis, *Hübner, Verz. bek. Schmett. p.* 92.

Papilio Hyparete, *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 178 (1793), *nec. Linn.*

Pieris Epicharis, *Godart, Enc. Méth.* IX. *p.* 153. *Boisduval, Spéc. Gén. Lép.* I. *p.* 456. *Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 26.

a. b. ♂ ♀. N. India. From the Asiatic Society of Bengal.

c. d. ♂ ♀. N. India. Presented by Colonel Buckley.

The larva and pupa of *P. Eucharis* are figured on Plate 1, fig. 13, 13*a*, from Canara, Southern India, where it was discovered by S. N. Ward, Esq., E.I.C.C.S., and from whose drawing our figures were copied.

161. *PIERIS HYPARETE, Linnæus Sp.*

Papilio Hyparete, *Linn., S. N.* II. *p.* 763 (1767). *Clerck, Icon. t.* 38, *f.* 2, 3.

Pieris Hyparete, *Godart, Enc. Méth.* IX. *p.* 153. *Boisduval, Spéc. Gén. Lép.* I. *p.* 455. *Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 26; *Diurnal Lep. p.* 44, *n.* 9.

Pontia Hyparete, *Hübner, Verz. bek. Schmett. p.* 92.

Papilio Antonoë, *Cramer, Pap.* II. *t.* 187, *f. C.D.* (1779); id. *t.* 320, *f. A.B.* (*nec. Stoll*).

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

162. *PIERIS HIERTE, Hübner Sp.*

Pontia Hierte, *Hübner, Verz. bek. Schmett. p.* 92 (1816); id. *Zuträge, f.* 77, 78.

Papilio Antonoë, *Stoll, Suppl. à Cramer Pap. t.* 33, *f.* 2, 2*B.* (1791), *nec. Cramer* (1779).

Pieris Antonoë, *Boisduval, Spéc. Gén. Lép.* I. *p.* 454. *Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 26; *Diurnal Lep. p.* 44, *n.* 8.

Pieris Hyparete, var., *Godart, Enc. Méth.* IX. *p.* 153.

a. b. c. ♂ ♀. N. India. Presented by Colonel Sykes.

163. *PIERIS AGOSTINA, Hewitson.*

Pieris Agostina, *Hewitson, Exot. Butt. pt.* III.; *Pieridæ, t.* 1, *f.* 1, 2 (1852).

a. ♂. Darjeeling. From Messrs. Schlagintweit's Collection.

P. Agostina.—Upper-side cream-colour; hind-wings more tinted than the fore-wings; *fore-wing* with the costal margin grey; the apex, to beyond the middle of the outer margin, black, marked with a row of five white spots; *hind-wing* with the border of the under-side seen through. Under-side, *fore-wing* with all the veins broadly black; *hind-wing* of a rich orange-yellow, with a submarginal line of black, and marginal spots of the same colour. Expanse of wings $2\frac{8}{10}$ in.

164. *PIERIS DESCOMBESI, Boisduval.*

Pieris Descombesi, *Boisduval, Spéc. Gén. Lép.* I. *p.* 465 (1836). *Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 27; *Diurnal Lep. p.* 45, *n.* 19.

a. b. ♂ ♀. Silhet. Presented by the Trustees of the British Museum.

c. ♀. Bootan. From Pemberton's Collection.

d. e. ♂ ♀. N. India. Presented by Colonel Sykes.

165. *PIERIS BELISAMA, Cramer Sp.*

Papilio Belisama, *Cramer, Pap.* III. *t.* 258, *f. A.B.C.D.* (1782).

Pieris Belisama, *Godart, Enc. Méth.* IX. *p.* 147. *Boisduval, Spéc. Gén. Lép.* I. *p.* 464. *Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 27; *Diurnal Lep. p.* 45, *n.* 18.

Cathæmia Belisama, *Hübner, Verz. bek. Schmett. p.* 92 (1816).

a. b. c. d. e. f. ♂ ♀. Java. From Dr. Horsfield's Collection.

The larva and pupa of *P. Belisama* are figured on Plate 1, fig. 14, 14*a*, from Java.

"The larva of this species feeds on a species of *Dioscorea*, and was very abundant during the rainy season, from December to February." —(Horsfield, MS.)

166. *PIERIS AUTOTHISBE, Hübner Sp.* (*Plate* IIa., *fig.* 4).

Delias Autothisbe, *Hübner, Samml. Exot. Schmett. p.* (1806–27).

Pieris Autothisbe, *Boisduval, Spéc. Gén. Lép.* I. *p.* 452. *Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 26; *Diurnal Lep. p.* 45, *n.* 29.

a. ♀. Java. Presented by the Trustees of the British Museum.

167. *PIERIS CORONEA, Cramer Sp.*

Papilio Coronea, *Cramer, Pap.* I. *t.* 68, *f. B. C.* (1779); id. *t.* 361, *f. G. H. Fabricius, Ent. Syst.* III. *pt.* I. *p.* 201.

Pieris Coronea, *Godart, Enc. Méth.* IX. *p.* 151. *Boisduval, Spéc. Gén. Lép.* I. *p.* 474. *Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 28; *Diurnal Lep. p.* 46, *n.* 52.

Anaphæis Coronea, *Hübner, Verz. bek. Schmett. p.* 93 (1816).

♀ Papilio Deiopeia, *Donovan, Ins. of New Holl. t.* (1805).

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

168. *PIERIS VISHNU, Moore* (*Plate* II*a., fig.* 5).

Pieris Vishnu, n. sp.—UPPER-SIDE, base of *fore-wing* white; anterior half black, with a short row of small white spots across anterior angle; *hind-wing*, basal two-thirds white, the rest black; body whitish. UNDER-SIDE, *fore-wing* as in the upper, but the base yellowish; *hind-wing* with the basal half fine yellow, anterior half black, with a marginal row of eight red lunate spots. Wings shaped as in *P. Coronea*, Cramer. Expanse of wings 2¼ in.

a. ♂. Java. From Dr. Horsfield's Collection.

Genus APORIA, *Hübner.*

APORIA, *Hübner, Verz. bek. Schmett.* (1816).
PIERIS, *p. Doubleday, Diurnal Lep.*

169. *APORIA AGATHON, G. R. Gray Sp.*

Pieris Agathon, *G. R. Gray, Gray's Zool. Misc. p.* 33 (1832); *List Lep. Ins. Nepal, p.* 8, *t.* 8, *f.* 1. *Boisduval, Spéc. Gén. Lép.* I. *p.* 447. *Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 25; *Diurnal Lep. p.* 48, *n.* 85.

Var. Pieris Phryxe, *Boisduval, Spéc. Gén. Lép.* I. *p.* 446 (1836). *Blanchard, Voy. de Jacquemont, Ins. t.* 2, *f.* 1 (1840).

a. b. ♂ ♀. Bootan. From Pemberton's Collection.

c. ♀. Cherra Poonjee. Presented by Colonel Buckley.

170. *APORIA SORACTA, Boisduval Sp.*

Pieris Soracta, *Boisduval, MS. Doubleday, Diurnal Lep. p.* 48, *n.* 86 (1847); *List Lep. Brit. Mus. pt.* I. *App. p.* 7.

a. India. Donor unknown.

b. Darjeeling. Reserved from Indian Collection, Exposition Universelle at Paris, 1855.

Aporia Soracta, Boisd.—UPPER-SIDE white as in *A. Cratægi*; *fore-wing* with the veinlets on the anterior half and outer margin broadly clouded with black, confining the white within a series of oval spaces; *hind-wing*, with the veinlets for a short distance *only* from the margin, and ciliæ sharply defined with black; between each veinlet from anterior margin to anal angle a lanceolate black mark. UNDER-SIDE with all the veins and veinlets sharply and broadly defined with black, also the lanceolate marks; base of wing yellow. Expanse of wings 2¼ in.

B.

PAPILIONES (*part*), *Horsfield, Cat. Lep. Mus. E.I.C. p.* 59 (1828).

PAPILIONIDÆ, *Leach, Edinb. Encycl.* IX. *p.* 127 (1815). *Dup. C. p.* 21. *E. Doubleday, Diurnal Lep. p.* 1. *Westwood* (*Introd.*). *Stephens. G. R. Gray. Stainton.*

PAPILIONIDES, *Boisduval, Spéc. Gén. Lép.* I. *pp.* 163, 171 (1836); et *Index Méth. Eur. Lép. p.* 1 (1840). *Westwood* (*Introd.*). *Blanchard, Hist. Nat. des Ins.* II. *p.* 325 (1845).

PAPILIONINÆ et PARNASSINÆ, *Swainson, Cabinet Cyclop. pp.* 87, 90 (1840).

PAPILIONIDI, *Stephens, Cat. Brit. Lep. Brit. Mus. pt.* I. *p.* 1 (1850). *Stainton, Manual Brit. Butt. pp.* 12, 14 (1856).

ARCHONTES HEROICI, A. DOMINANTES, et A. SAPIENTES, *Hübner.*

PAP.-PARNASSII (*part*), *Linnæus* et *Fabricius.*

LEP. HEXAPODA (*part*), *Latreille, Règ. Anim.* V. *p.* 374 (1829).

PAPILIONIDÆ (*part*), *Swainson, Cab. Cyclop. p.* 86 (1840).

PAPILIONII (*part*), *Blanchard, Hist. Nat. des Ins.* II. *pp.* 322, 324 (1845).

CHEVALIERS, *Boisduval, Hist. Gén. des Lép. Amér. Sep. p.* 2 (1829).

Genus PARNASSIUS, *Latreille.*

PARNASSIUS, *Latreille, H. N. des Crust. et Ins.* XIV. *p.* 110 (1805).

DORITIS, *Fabricius, Syst. Gloss.* (*ined.*).

PARNASSIS, *Hübner, Verz. bek. Schmett. p.* 90 (1816).

PIERIS, *A. Schrank, F. B.* II. I. *p.* 160 (1801).

171. *PARNASSIUS HARDWICKI, G. R. Gray.*

Parnassius Hardwickii, *G. R. Gray, Gray's Zool. Misc. p.* 32 (1832); *Lep. Ins. Nepal, p.* 7. *t.* 4, *f.* 1, 1*a*.

Boisduval, Spéc. Gén. Lép. I. *p.* 400. *Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 21; *Diurnal Lep. p.* 27, *n.* 10. *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 76, *n.* 352, *t.* 12, *f.* 8—11; id. *List Lep. Brit. Mus. pt.* I. *p.* 81.

a. b. ♂. N. India. Presented by Colonel Hearsey.

This species was taken by Major Charlton in Chinese Tartary, at an elevation of 15,000 feet.

Genus LEPTOCIRCUS, *Swainson.*

LEPTOCIRCUS, *Swainson, Zool. Ill. 2nd ser. t.* 106 (1832).

IPHICLIDES, *pt. Hübner, Zuträge, f.* 645–6 (1832).

LAMPROSURA, *Boisduval.*

172. *LEPTOCIRCUS CURIUS, Fabricius Sp.*

Papilio Curius, *Fabricius, Mant. Ins.* II. *p.* 9 (1787); *Ent. Syst.* III. *pt.* I. *p.* 28. *Donovan, Ins. Ind. t.* 47, *f.* 1.

Leptocircus Curius, *E. Doubleday, Zoologist,* III, *cum fig.; List Lep. Brit. Mus. pt.* I. *p.* 19; *Diurnal Lep. p.* 23, *n.* 1, *t.* 4*, *f.* 1. *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 73, *n.* 336; id. *List Lep. Brit. Mus. pt.* I. *p.* 86.

a. b. ♂ ♀. N. India. Presented by Colonel Sykes.

c. d. ♂ ♀. Cherra Poonjee. Presented by Colonel Buckley.

173. *LEPTOCIRCUS MEGES, Zinken-Sommer Sp.*

Papilio Meges, *Zinken-Sommer, Nova Acta Acad. Nat. Cur.* XV. *p.* 161 (1831).

Leptocircus Meges, *E. Doubleday, Zoologist,* III. *p.* 23, *fig.; List Lep. Brit. Mus. pt.* I. *p.* 20; *Diurnal Lep. p.* 23, *n.* 2. *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 73, *n.* 337.

Leptocircus Curius, *apud Swainson, Zool. Ill. 2nd ser. t.* 106. *Boisduval, Spéc. Gén. Lép.* I. *p.* 381; *t.* 3, *B. f.* 1; et *t.* 1, *C. f.* 3.

Erycina Curius, *apud Godart, Enc. Méth.* IX. *p.* 827.

Iphiclides Curius, *apud Hübner, Zuträge, f.* 645–6.

a. b. ♂ ♀. Java. From Mr. Argent's Collection.

Genus TEINOPALPUS, *Hope.*

TEINOPALPUS, *Hope, Trans. Linn. Soc.* XIX. *p.* 131 (1843).

174. *TEINOPALPUS IMPERIALIS, Hope.*

♂ Teinopalpus imperialis, *Hope, Trans. Linn. Soc.* XIX. *p.* 131, *t.* 11, *f.* 1, 2. *Westwood, Arcana Ent. t.* 59. *Doubleday, List Lep. Brit. Mus.* I. *p.* 1; *Diurnal Lep. p.* 2. *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 80, *n.* 367; id. *List Lep. Brit. Mus. pt.* I. *p.* 95.

♀ Teinopalpus Parryiæ, *Hope, Trans. Linn. Soc.* XIX. *p.* 132. *Westwood, Arcana Ent. t.* 60. *Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 2.

a. b. ♂. Darjeeling. From Pearson's Collection.

c. ♂. Darjeeling. Presented by Colonel Buckley.

d. e. f. ♂ ♀. Darjeeling. Reserved from Indian Collection, Exposition Universelle at Paris, 1855.

"This beautiful genus, of which one species only is yet known, may be distinguished at a glance from the others of this family, by its long porrect palpi. There is little else in its structure to separate it from *Ornithoptera* or *Papilio*, though some of its peculiarities indicate an approach to *Thais*, a genus in which the palpi are more developed than in any other of the *Papilionidæ*, with the exception of *Teinopalpus*. The posterior wings differ materially in the two sexes; in the male they are dentate, one-tailed; in the female, three-tailed.

Nothing is known of its habits beyond the fact of its inhabiting the highest ranges of the Himalayas, especially towards the frontiers of Assam, and there it seems to be of very rare occurrence."—(Doubleday, Diurnal Lep.)

Genus ORNITHOPTERA, *Boisduval.*

ORNITHOPTERA, *Boisduval, Faune de l'Océan. t.* 4, *f.* 1 (1832).

TROIDES, *Hübner, Verz. bek. Schmett.* 87 (1816).

AMPHRISIUS, *Swainson, Zool. Ill. 2nd ser. t.* 98 (1833).

PAPILIO (ORNITHOPTERA), *G. R. Gray, Cat. Lep. Brit. Mus.* (1852).

175. *ORNITHOPTERA RICHMONDIA, G. R. Gray.*

Papilio (Ornithoptera) Richmondia, *G. R. Gray, Cat.*

Lep. Brit. Mus. pt. I. *p.* 2, *t.* 2, *f.* 1, 2 (1852); *List of Lep. Brit. Mus. pt.* I. *p.* 2.

a. b. ♂ ♀. Richmond River, New South Wales. Collected by F. Strange, Esq. From Captain Parry's Collection.

176. *ORNITHOPTERA DARSIUS, G. R. Gray.*

Papilio (Ornithoptera) Darsius, *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 5, *n.* 11 (1852); *List Lep. Brit. Mus. pt.* I. *Pap. p.* 4.

Ornithoptera Amphimedon, *apud E. Doubleday, Gen. Diurnal Lep. t.* 1, *f.* 2, ♂.

a. b. ♂. Ceylon. Donor unknown.

c. ♀. Drawing. Ceylon. From Jonville's Collection.

The larva and pupa of *Ornithop. Darsius* are figured on Plate II., fig. 2, 2*a*, from Ceylon, where discovered by E. L. Layard, Esq., from whose drawings our figures were copied.

177. *ORNITHOPTERA POMPEUS, Cramer Sp.*

♀ Papilio Pompeus, *Cramer, Pap. Ex. t.* 25, *f. A.* (1775). *Esper, Ausl. Schmett. t.* 24, *f.* 2, ♀.

Ornithoptera Pompeus, *E. Doubleday, Diurnal Lep. p.* 4, *n.* 9.

Papilio (Ornithoptera) Pompeus, *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 5, *n.* 13; *List Lep. Brit. Mus. pt.* I. *p.* 5.

♀ Papilio Astenous, *Fabricius, Syst. Ent.* II. *p.* 448 (1775); *Ent. Syst.* III. I. *p.* 19.

Troides Astenous, *Hübner, Verz. bek. Schmett. p.* 88.

♀ Papilio Minos, *Cramer, Pap. Ex. t.* 195, *f. A.* (1782).

Troides Minos, *Hübner, Verz. bek. Schmett. p.* 88.

♂ ♀ Papilio Heliacon, *Fabricius, Ent. Syst.* III. I. *p.* 19 (1793). *Donovan, Ins. of Ind. t.* 22, *f.* 1; ex *Jones, Icon. ined.* I. *t.* 42.

Ornithoptera Heliacon, *Boisduval, Spéc. Gén. Lép.* I. *p.* 178. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 2.

Amphrisius Nymphalides, *Swainson, Zool. Ill. 2nd ser. t.* 98.

Papilio Amphrisius, *pt. Godart, Enc. Méth.* IX. *p.* 27.

Papilio Amphrisius, *apud Horsfield, Cat. Lep. Mus. E.I.C. t.* IV. *f.* 13, *larva* et *pupa.*

a. b. c. d. e. f. ♂ ♀. Java. From Dr. Horsfield's Collection.

g. ♂. Darjeeling. From Pearson's Collection.

h. i. ♂. Cherra Poonjee. Presented by Colonel Buckley.

j. ♂. Darjeeling. From Messrs. Schlagintweit's Collection.

The larva and pupa of *Ornithop. Pompeus* are figured on Plate II., fig 1, 1*a*, from Java, where it "feeds on a species of *Aristolochia*, bearing the native name of *Wallas*. March. Scarce."—(Horsfield, MS.)

178. *ORNITHOPTERA RHADAMANTHUS, Boisduval.*

Ornithoptera Rhadamanthus, *Boisduval, Spéc. Gén. Lép.* I. *p.* 180 (1836). *E. Doubleday, Diurnal Lep. p.* 4, *n.* 10.

Papilio (Ornithoptera) Rhadamanthus, *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 6, *n.* 14; *List Lep. Brit. Mus. pt.* I. *p.* 5.

♂ Papilio Amphrisius, *apud Lucas, Lep. Exot. t.* 2, *f.* 1.

a. ♂. N. India. Presented by Colonel Sykes.

b. ♀. Canara? Presented by S. N. Ward, Esq.

c. ♀. Darjeeling. From Pemberton's Collection.

d. e. ♂ ♀. Darjeeling. From Messrs. Schlagintweit's Collection.

f. ♀. Darjeeling. Reserved from Indian Collection, Exposition Universelle at Paris, 1855.

179. *ORNITHOPTERA AMPHRISIUS, Cramer Sp.*

♂ Papilio Amphrysus, *Cramer, Pap. Ex. t.* 219, *f. A.* (1782).

Ornithoptera Amphrisius, *Boisduval, Spéc. Gén. Lép.* I. *p.* 178. *De Haan, Verh. Nat. Gesch. Ned. p.* 19? *E. Doubleday, Diurnal Lep. p.* 4, *n.* 8.

Papilio Amphrisius, *Fabricius, Ent. Syst.* III. I. *p.* 11. *Godart, Enc. Méth.* IX. *p.* 27, *pt. n.* 7.

Papilio Amphrisus, *Herbst, Pap. t.* 1, *f.* 3. *Esper, Ausl. Schmett. t.* 34, *f.* 1.

Troides Amphrysus, *Hübner, Verz. bek. Schmett. p.* 88.

Papilio (Ornithoptera) Amphrisius, *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 6, *n.* 15; *List Lep. Brit. Mus. pt.* I. *p.* 6.

a. b. c. d. ♂ ♀. Borneo. Presented by H. Lowe, Esq.

Genus PAPILIO, *Linnæus.*

PAPILIO, *Linnæus. Fabricius. Godart. Horsfield. Boisduval. Doubleday. G. R. Gray.*

ZELIMA, *Fabricius. Zinken-Sommer.*

AMARYSSUS, *Dalm., P. S. p.* 85 (1816).

IPHICLIDES, JASONIADES, EUPHÆADES, HERACLIDES, LAERTIADES, MENELAIDES, ACHILLIDES, IDAIDES, ZETIDES, ORPHEIDES, NESTORIDES, CALAIDES, PRIAMIDES, PARIDES, ITHOBALUS, ILIADES, ARISBE, ZELIDES, HECTORIDES, ASCANIDES, AMAURIS, *Hübner, Verz.* (1816).

CLYTIA, POLYDORUS, THOAS, CHLORISSES, PROTESILAUS, PODALIRIUS, *Swainson, Zool. Ill. 2nd ser.* (1829–33).

180. *PAPILIO NOX, Swainson.*

Papilio Nox, *Swainson, Zool. Ill. 1st ser. t.* 102 (1822). *Horsfield, Cat. Lep. Mus. E.I.C. t.* 1, *f.* 15. *Boisduval, Spéc. Gén. Lép.* I. *p.* 277. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 11; *Diurnal Lep. p.* 9, *n.* 12. *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 8, *n.* 28; id. *List Lep. Brit. Mus. pt.* I. *p.* 9.

Papilio Memercus, *Godart, Enc. Méth.* IX. *Suppl. p.* 809 (1823).

Papilio Neesius, *Zinken-Sommer, Nov. Act. Acad. Nat. Cur.* XV. *t.* 14, *f.* 4 (1831).

Papilio Nox, var. ♀, *De Haan, Verh. Nat. Gesch. Ned. Overz. Bez. Ins. p.* 41, *t.* 5, *f.* 3.

a. ♀. Java. From Dr. Horsfield's Collection.

181. *PAPILIO ASTINA, Horsfield.*

Papilio Astina, *Horsfield. Westwood, Cabinet Orient. Ent. p.* 20, *t.* 9, *f.* 3; id. *Doubleday's Diurnal Lep.*

Add. p. 529. *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 72, *n.* 335; id. *List Lep. Brit. Mus. pt.* I. *p.* 85.

a. ♂. (type). Java. From Dr. Horsfield's Collection.

182. *PAPILIO MACAREUS, Godart.*

Papilio Macareus, *Godart, Enc. Méth.* IX. *p.* 76 (1819). *Horsfield, Cat. Lep. Mus. E.I.C. t.* 5, *f.* 1. *Boisduval, Spéc. Gén. Lép.* I. *p.* 374. *Lucas, Lep. Exot. t.* 23, *f.* 1. *E. Doubleday, Diurnal Lep. p.* 21, *n.* 259; *List Lep. Brit. Mus. pt.* I. *App. p.* 4.

Papilio striatus, *Zinken-Sommer, Nova Acta Acad. Nat. Cur.* XV. *t.* 14 (1831).

Papilio Xenocles, var. *a., G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 71; *List Lep. Brit. Mus. pt.* I. *p.* 83.

a. b. c. ♂ ♀. Java. From Dr. Horsfield's Collection.

d. ♂. Darjeeling. From Messrs. Schlagintweit's Collection.

183. *PAPILIO MEGARUS, Westwood.*

Papilio Megarus, *Westwood, Arcana Ent. p.* 98, *t.* 72, *f.* 3 (1845). *E. Doubleday, Diurnal Lep. p.* 20, *n.* 256; *List Lep. Brit. Mus. pt.* I. *App. p.* 4. *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 71, *n.* 326; id. *List Lep. Brit. Mus. pt.* I. *p.* 83.

a. ♂. Silhet. Presented by the Trustees of the British Museum.

184. *PAPILIO XENOCLES, E. Doubleday.*

Papilio Xenocles, *E. Doubleday, Gray's Zool. Misc. p.* 74 (1842); *List Lep. Brit. Mus. pt.* I. *p.* 19; *Diurnal Lep. p.* 20, *n.* 258. *Westwood, Arcana Ent. p.* 127, *t.* 92, *f.* 1. *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 71, *n.* 327; id. *List Lep. Brit. Mus. pt.* I. *p.* 83.

Papilio Pollux, *apud Erichson, Wiegm. Archiv. für Naturg.* II. *p.* 248 (1843).

a. b. c. ♂ ♀. Silhet. Presented by Colonel Buckley.

d. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

185. *PAPILIO DELESSERTI, Guérin.*

Papilio Delessertii, *Guérin, Rev. Zool.* (1839), *p.* 233; *Deless. Souv. Voy. dans l'Inde, Ins. t.* 17. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 19; *Diurnal Lep. p.* 20, *n.* 257. *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 71, *n.* 325; id. *List Lep. Brit. Mus. pt.* I. *p.* 82.

Papilio Laodocus, *De Haan, Verh. Naturl. Gesch. p.* 42, *t.* 8, *f.* 5 (1839).

Papilio Melanides (*De Haan*), *Erichson, Wiegm. Archiv. für Naturg.* II. *p.* 248 (1843).

a. ♀. Java (?). From Dr. Horsfield's Collection (?).

186. *PAPILIO AGESTOR, G. R. Gray.*

Papilio Agestor, *G. R. Gray, Lep. Ins. of Nepal, t.* 4, *f.* 2 (1831). *J. E. Gray's Zool. Misc.* (1832), *p.* 32. *Boisduval, Spéc. Gén. Lép.* I. *p.* 376. *Westwood, Arcana Ent. p.* 59, *t.* 16, *f.* 2. *Kollar, in Hügel's Kaschmir, pt.* II. *p.* 406. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 19; *Diurnal Lep. p.* 21, *n.* 262. *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 71, *n.* 323; id. *List Lep. Brit. Mus. pt.* I. *p.* 82.

a. ♂. N. India. Presented by Colonel Buckley.

b. ♂. Darjeeling. Reserved from Indian Collection, Exposition Universelle at Paris, 1855.

"This species is one of the earliest of the genus that is on the wing, being found in woody situations in April and May, dancing lightly over the tops of low bushes and trees, with a sailing kind of flight, gliding along without moving the wings. It is by no means rare at Masuri."—(Capt. T. Hutton, Trans. Ent. Soc. V. p. 50.)

187. *PAPILIO DISSIMILIS, Linnæus.*

♂ Papilio dissimilis, *Linn., S.N.* II. *p.* 782 (1767). *Clerck, Icon. t.* 16, *f.* 2. *Cramer, Pap.* I. *t.* 82, *f. C. D. Fabricius, Ent. Syst.* III. I. *p.* 38. *Herbst, Pap. t.* 126, *f.* 2, 3. *Godart, Enc. Méth.* IX. *p.* 175. *Boisduval, Spéc. Gén. Lép.* I. *p.* 377. *Lucas, Lep. Exot. t.* 23, *f.* 2. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 19; *Diurnal Lep. p.* 21, *n.* 263.

G. R. Gray, Cat. Lep. Brit. Mus. pt. I. *p.* 71, *n.* 330; id. *List Lep. Brit. Mus. pt.* I. *p.* 84.

Clytia dissimilis, *Swainson, Zool. Ill. 2nd ser. t.* 120.

♀ Papilio Panope, *Linnæus, S. N.* II. *p.* 782. *Cramer, Pap.* III. *t.* 295, *f. E. F. Fabricius, Ent. Syst.* III. I. *p.* 59. *Boisduval, Spéc. Gén. Lép.* I. *p.* 373. *Kollar, in Hügel's Kaschmir, pt.* II. *p.* 406. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 19.

Princeps Dominans Panope, *Hübner, Samml. Exot.* I. *t.* 132.

Arisbe Panope, *Hübner, Verz. bek. Schmett. p.* 89.

Papilio Panopes, *Godart, Enc. Méth.* IX. *p.* 75.

Var. *a.* Papilio Clytia, *Linnæus, S. N.* II. *p.* 781. *Fabricius, Ent. Syst.* III. I. *p.* 127.

Papilio Echidna, *De Haan, Verh. Naturl. Gesch. p.* 42, *t.* 8, *f.* 6 (18—).

Var. *b.* Papilio Palephates, *Westwood, Arcana Ent. p.* 127, *pl.* 76, *f.* 1. *E. Doubleday, Diurnal Lep. p.* 21, *n.* 265.

a. b. c. ♂ ♀. N. India. Presented by Colonel Buckley.

d. ♀. Canara. Presented by S. N. Ward, Esq.

e. ♀, with anterior wings *wholly* brown. Donor unknown.

The larva and pupa of *P. dissimilis* are figured on Plate II., fig. 3, 3*a*, 3*b*, and were copied from the drawings of General Hardwicke, now in the Library of the British Museum. This species has been also reared in Ceylon by E. L. Layard, Esq. The transformations were also observed by Lady Gilbert, among whose drawings figures are given. Her ladyship states that "it feeds on a plant called by the natives *Maike*. The larva was obtained on the 26th July; two days after it commenced its transformation, and on the following day the chrysalis resembled a dried twig, adhering to the frame only by the extremity of the tail, and supported on each side by two fine threads: in this state it died."

"Occurs in warm glens as well as in the Dhoon, but it does not appear to be very numerous."—(Captain T. Hutton, Trans. Ent. Soc. V. p. 49.)

188. *PAPILIO CASTOR, Westwood.*

♂ Papilio Castor, *Westwood, Ann. N. H.* IX. *p.* 37 (1842); *Arcana Entom. p.* 129, *t.* 80, *f.* 1, 2. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 4; *Diurnal Lep. p.* 12, *n.* 72. *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 21, *n.* 93; id. *List Lep. Brit. Mus. pt.* I. *p.* 28.

♀ Papilio Pollux, *Westwood, Ann. N. H.* IX. *p.* 37 (1842); *Arc. Ent. p.* 129, *t.* 90, *f.* 1. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 19; *Diurnal Lep. p.* 21, *n.* 264.

a. ♂. Cherra Poonjee. Presented by Colonel Buckley.

b. ♂. Silhet. Presented by the Trustees of the British Museum.

c. ♀. N. India. Donor unknown.

189. *PAPILIO HECTOR, Linnæus.*

Papilio Hector, *Linnæus, S. N.* II. *p.* 745 (1767). *Clerck, Icon. t.* 33, *f.* 1. *Cramer, Pap.* II. *t.* 141, *f. A. Fabricius, Ent. Syst.* III. I. *p.* 3. *Herbst, Pap. t.* 13, *f.* 2. *Esper, Ausl. Schmett. t.* 1, *f.* 2. *Godart, Enc. Méth.* IX. *p.* 70. *Boisduval, Spéc. Gén. Lép.* I. *p.* 269. *Lucas, Lep. Exot. t.* 4, *f.* 2. *De Haan, Verh. Naturl. Gesch. p.* 39. *Westwood, Arcana Ent. p.* 9, *t.* 3. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 10; *Diurnal Lep. p.* 9, *n.* 25. *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 11, *n.* 41; id. *List Lep. Brit. Mus. pt.* I. *p.* 13.

Menelaides Hector, *Hübner, Verz. bek. Schmett. p.* 84.

Princeps Heroicus Hector, *Hübner, Samml. Exot.* I. *t.* 109.

a. b. ♂ ♀. Calcutta. Presented by Colonel Buckley.

c. d. ♂. N. India. Donor unknown.

e. f. ♀. Madras. In exchange.

g. Ceylon. Drawing. From Jonville's Collection.

The larva and pupa of *Pap. Hector* are figured on Plate II., fig. 4, 4*a*, 4*b*, from General Hardwicke's drawings.

"The larva feeds on *Aristolochia indica.*"—(Hardwicke.)

190. *PAPILIO DIPHILUS, Esper.*

Papilio Diphilus, *Esper, Ausl. Schmett. t.* 40, *f.* 1 (1801). *E. Doubleday, Diurnal Lep. p.* 9, *n.* 20. *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 10, *n.* 34; id. *List Lep. Brit. Mus. pt.* I. *p.* 11.

Polydorus Thoas, *Swainson, Zool. Ill. 2nd ser. t.* 100 (1833).

Papilio Polydorus, *apud Cramer, Pap.* II. *t.* 128, *f. A.B. Herbst, Pap. t.* 15, *f.* 3. *Godart, Enc. Méth.* IX. *p.* 71 (*part*). *Horsfield, Cat. Lep. Mus. E.I.C. t.* 3, *f.* 17. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 10.

Menelaides Polydorus, *Hübner, Verz. bek. Schmett. p.* 84.

Princeps Heroicus Polydorus, *Hübner, Samml. Exot.* I. *t.* 110.

Papilio Polydorus, var., *Boisduval, Spéc. Gén. Lép.* I. *p.* 267. *De Haan, Verh. Naturl. Gesch. p.* 38, *t.* 8, *f.* 1.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. f. ♂ ♀. N. India. From the Asiatic Society of Bengal.

g. h. ♀. Calcutta. Presented by Colonel Buckley.

The larva and pupa of *Pap. Diphilus* are figured on Plate II., fig. 5, 5*a*, from Java.

191. *PAPILIO ANTIPHUS, Fabricius.*

Papilio Antiphus, *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 10. *Donovan, Ins. of Ind. t.* 15, *f.* 2; ex *Jones, Icon. ined.* I. *t.* 14. *Godart, Enc. Méth.* IX. *p.* 71. *Boisduval, Spéc. Gén. Lép.* I. *p.* 266. *De Haan, Verh. Naturl. Gesch. p.* 49, *t.* 8, *f.* 2, ♀. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 9; *Diurnal Lep. p.* 9, *n.* 21. *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 11, *n.* 37; id. *List Lep. Brit. Mus. pt.* I. *p.* 12.

Papilio Polygius, *Godart, Enc. Méth.* IX. *Suppl.* 8, *n.* 11, 129–30 (1823).

? ♀ Papilio Theseus, *Cramer, Pap.* II. *t.* 180, *f. B.* (1776). *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 2. *Herbst, Pap.*

t. 14, *f.* 3. *Esper, Ausl. Schmett. t.* 36, *f.* 3. *Godart, Enc. Méth.* IX. *p.* 71. *Boisduval, Spéc. Gén. Lép.* I. *p.* 276. *E. Doubleday, Diurnal Lep. p.* 11, *n.* 63.

Menelaides Theseus, *Hübner, Verz. bek. Schmett. p.* 84.

Var. *a., G. R. Gray.*

Papilio Kotzebuæ, *Eschscholtz, Voy. Kotzebue, t.* 1, *f.* 2.

Papilio Antiphus, ♂, *De Haan, Verh. Naturl. Gesch. pp.* 5, 40.

a. ♂. Java. Presented by the Trustees of the British Museum.

Var. *b., G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 11.

a. b. ♂. Borneo. Presented by H. Lowe, Esq.

192. *PAPILIO COON, Fabricius.*

Papilio Coon, *Fabricius, Ent. Syst.* III. I. *p.* 10 (1793). *Donovan, Ins. of China, t.* 24, *f.* 1; ex *Jones, Icon. ined.* I. *t.* 36. *Godart, Enc. Méth.* IX. *p.* 65. *Lucas, Lep. Exot. t.* 6, *f.* 2. *Boisduval, Spéc. Gén. Lép.* I. *p.* 201. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 3; *Diurnal Lep. p.* 10, *n.* 41. *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 16, *n.* 60; id. *List Lep. Brit. Mus. pt.* I. *p.* 19.

Papilio Hypenor, *Godart, Enc. Méth.* IX. *p.* 65 (1819).

Achillides Hypenor, *Hübner, Samml. Exot.* III. *t.* 491.

a. b. c. ♂ ♀. Java. From Dr. Horsfield's Collection.

d. ♂. N. India. Presented by Colonel Buckley.

e. ♂. China. Presented by Dr. Cantor, 1844.

193. *PAPILIO ALCINOUS, Klug.*

Papilio Alcinous, *Klug, Neue Schmett. der Insekt.-Samml. Berlin* (1836), *t.* 1. *De Haan, Verh. Nat. Gesch. Insect. p.* 26. *E. Doubleday, Diurnal Lep. p.* 9, *n.* 19. *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 12, *n.* 45; *List Lep. Brit. Mus. pt.* I. *p.* 14.

Hab. Japan.—(*Siebold.*)

Var. *a., G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 12, *t.* 4, *f.* 2, ♂, 3, ♀; *List. Lep. Brit. Mus. pt.* I. *p.* 14.

a. b. ♂. Bootan. From Pemberton's Collection.

The larva of *Pap. Alcinous* is figured on Plate II., fig. 6, copied from De Haan's published drawing.

194. *PAPILIO PHILOXENUS, G. R. Gray.*

♀ Papilio Philoxenus, *G. R. Gray, Lep. Ins. of Nepal, p.* 5, *t.* 2 (1831). *J. E. Gray's Zool. Misc.* (1832), *p.* 32. *Boisduval, Spéc. Gén. Lép.* I. *p.* 264. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 9; *Diurnal Lep. p.* 9, *n.* 14. *Westwood, Cab. Orient. Ent. t.* 40, *f.* 2. *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 9, *n.* 31; id. *List Lep. Brit. Mus. pt.* I. *p.* 10.

Var. *a., G. R. Gray.*

♂ Papilio Polyeuctes, *E. Doubleday, Gray's Zool. Misc. p.* 74 (1842); *Diurnal Lep. p.* 9, *n.* 15, *t.* 2, *f.* 3. *Westwood, Cab. Orient. Ent. t.* 40, *f.* 3.

Papilio Boötes, *pt., Erichson.*

a. b. ♂ ♀. Darjeeling. From Pearson's Collection.

c. d. ♂ ♀. Cherra Poonjee. Presented by Colonel Buckley.

e. f. ♂ ♀. Darjeeling. From Messrs. Schlagintweit's Collection.

195. *PAPILIO DASARADA, Moore.*

♂ Papilio Philoxenus, var., *Westwood, Cab. Orient. Ent. t.* 40, *f.* 5.

Papilio Philoxenus, var. B., *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 9; *List Lep. Brit. Mus. pt.* I. *p.* 10.

a. b. ♂ ♀. Cherra Poonjee. Presented by Colonel Buckley.

196. *PAPILIO RAVANA, Moore.*

♀ Papilio Philoxenus, var., *Westwood, Cab. Orient. Ent. t.* 40, *f.* 4.

Papilio Philoxenus, var. C., *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 9; *List Lep. Brit. Mus. pt.* I. *p.* 10.

a. b. ♂ ♀. Darjeeling. Reserved from Indian Collection, Exposition Universelle at Paris, 1855.

197. *PAPILIO MINEREUS, G. R. Gray.*

♀ Papilio Minereus, *G. R. Gray, Lep. Ins. of Nepal, p.* 5, *t.* 1 (1831). *J. E. Gray's Zool. Misc.* (1832), *p.* 32; *Cat. Lep. Brit. Mus. pt.* I. *p.* 9, *n.* 32; id. *List Lep. Brit. Mus. pt.* I. *p.* 10. *Westwood, Cab. Orient. Ent. t.* 40, *f.* 1. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 9; *Diurnal Lep. p.* 9, *n.* 16.

Papilio Latreillii, *Donovan, Nat. Reposit. vol.* IV. *t.* 140.

Papilio Philoxenus, ♀, *Boisduval, Spéc. Gén. Lép.* I. *p.* 264.

Papilio Philoxenus, var., *Westwood.*

a. ♂. Darjeeling. From Messrs. Schlagintweit's Collection.

198. *PAPILIO JANAKA, Moore.*

Papilio Janaka, *Moore, Proc. Zool. Soc.* (1857); *Annulosa, t.* , *f.* 1, 1*a.*

a. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

b. c. Darjeeling. From Messrs. Schlagintweit's Collection.

Pap. Janaka, n. sp.—UPPER-SIDE black; *hind-wing* with a white patch on the disc, which is divided by three of the veinlets, thus forming four separate patches, the outer one on each side being the shortest, and the two nearest the abdominal margin being tinged with red; three sub-marginal and three marginal lunules and circular mark at anal angle red; tail with two red spots. UNDER-SIDE black; *fore-wing* with the base red; *hind-wing* with patch on disc as on upper-side, but the one nearest abdominal margin nearly covered with red, which colour is continued upwards and downwards, occupying the base of the wing and the whole space between the third median veinlet and sub-median vein; lunules as above, but are larger, and a fourth sub-marginal one appears between the discoidal and first median veinlets; tail spotted as above; ciliæ between the angles white; head, neck, body beneath, and sides, red. Wings shaped as in *P. Boötes*, Westwood, Arc. Ent. t. 31. Expanse of wings 5 in.

Remark.—*Papilio Boötes* appears to be a near ally of *P. Janaka.*

199. *PAPILIO VARUNA, White.*

Papilio Varuna, *White, Entomologist* (1842), *p.* 280. *Westwood, Ann. N. H.* IX. *n. s. p.* 37. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 11; *Diurnal Lep. p.* 9, *n.* 11. *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 8, *n.* 27; id. *List Lep. Brit. Mus. pt.* I. *p.* 9.

♂ Papilio Astorion, *Westwood, Ann. N. H.* (1842), *p.* 37; *Arc. Ent. p.* 69, *t.* 66, *f.* 1.

♀ Papilio Chara, *Westwood, Arc. Ent. p.* 69, *t.* 66, *f.* 2 (1845).

a. ♂. N. India. Presented by the Trustees of the British Museum.

b. ♀. N. India. Presented by Lieutenant Hugo James.

c. d. e. f. ♂ ♀. Darjeeling. Reserved from the Indian Collection, Exposition Universelle at Paris, 1855.

200. *PAPILIO RHETENOR, Westwood.*

Papilio Rhetenor, *Westwood, Arcana Ent. p.* 59, *t.* 16, *f.* 1, 1*a* (1842). *Kollar, in Hügel's Kaschmir, pt.* II. *p.* 403. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 3; *Diurnal Lep. p.* 10, *n.* 35. *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 15, *n.* 54; id. *List Lep. Brit. Mus. pt.* I. *p.* 18.

a. b. ♀. Darjeeling. From Pearson's Collection.

c. d. ♂ ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

201. *PAPILIO PROTENOR, Cramer.*

♂ Papilio Protenor, *Cramer, Pap.* I. *t.* 49, *f. A. B.* (1775). *Fabricius, Ent. Syst.* III. I. *p.* 13. *Herbst, Pap. t.* 7, *f.* 1, 2. *Esper, Ausl. Schmett. t.* 33, *f.* 2; *t.* 29, *f.* 2 ? *Godart, Enc. Méth.* IX. *p.* 30. *Boisduval, Spéc. Gén. Lép.* I. *p.* 198. *De Haan, Verh. Naturl. Gesch. p.* 25. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 3; *Diurnal Lep. p.* 10, *n.* 34. *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 14, *n.* 52; id. *List Lep. Brit. Mus. pt.* I. *p.* 17.

Iliades Protenor, *Hübner, Verz. bek. Schmett. p.* 89.

♀ Papilio Laomedon, *Fabricius, Ent. Syst.* III. I. *p.* 12. *Donovan, Ins. of China, t.* 25; ex *Jones, Icon. ined.* I. *t.* 10.

a. ♂. Bootan. From Pemberton's Collection.

b. c. ♂ ♀. N. India. Presented by Colonel Buckley.

d. ♀. N. India. In exchange.

"Not an uncommon species in the warm glens of the Masuri Hills during the summer months, and it is common in the Dhoon. Its flight is somewhat heavy and unsteady."—(Captain T. Hutton, Trans. Ent. Soc. V. p. 49.)

202. *PAPILIO MEMNON, Linnæus.*

♂ Papilio Memnon, *Linnæus, S. N.* II. *p.* 747 (1767). *Cramer, Pap. Exot.* I. *t.* 91, *f. C. Fabricius, Ent. Syst.* III. I. *p.* 12. *Herbst, Pap. t.* 6, *f.* 2, 3. *Esper, Ausl. Schmett. t.* 20, *f.* 3. *Godart, Enc. Méth.* IX. *p.* 29. *Swainson, Zool. Ill. 2nd ser. t.* 95. *De Haan, Verh. Naturl. Gesch. p.* 23, *t.* 3, *f.* 1. *Boisduval, Spéc. Gén. Lép.* I. *p.* 192. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 2; id. *Diurnal Lep. p.* 10, *n.* 30. *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 13, *No.* 47; id. *List Lep. Brit. Mus. pt.* I. *p.* 14.

Iliades Memnon, *Hübner, Verz. bek. Schmett. p.* 89.

Papilio Arbates, *Zinken-Sommer, Nova Acta Acad. Nat. Cur.* XV. *p.* 151 (1831).

a. b. c. ♂. Java. From Dr. Horsfield's Collection.

Var. A. ♂ Papilio Androgeos, *Cramer, Pap. Exot.* I. *t.* 91, *f. A. B.* (1775).

Papilio Memnon, *Esper, Ausl. Schmett. t.* 8, *f.* 1.

Iliades Mestor, *Hübner, Verz. bek. Schmett. p.* 89 (1816).

d. ♂. Pinang. Presented by Dr. Cantor, 1844.

e. ♂. Darjeeling. Reserved from Indian Collection, Exposition Universelle at Paris, 1855.

Var. B. ♀ Papilio Anceus, *Cramer, Pap. Exot.* III. *t.* 222, *f. A. B.* (1780).

Iliades Anceus, *Hübner, Verz. bek. Schmett. p.* 88.

Var. C. ♀ Papilio Laomedon, *Cramer, Pap. Exot.* I. *t.* 50, *f. A. B.* (1775).

Iliades Laomedon *Hübner, Verz. bek. Schmett. p.* 89.

Papilio Memnon (*pt.*), *Fabricius, Ent. Syst.* III. I. *p.* 12.

f. ♀. Java. From Dr. Horsfield's Collection.

Var. D. Papilio Memnon, var. *d., G. R. Gray.*

g. h. ♀. Cherra Poonjee. Presented by Colonel Buckley.

Var. E. ♀ Papilio Laomedon, var., *De Haan, Verh. Nat. Gesch. p.* 24, *t.* 3, *f.* 2.

Var. F. Papilio Memnon, var. *f., G. R. Gray.*

Var. G. ♀ Papilio Agenor, *Linnæus, Syst. Nat.* II. *p.* 747 (1767). *Clerck, Icon. t.* 15. *Cramer, Pap. Exot.* I. *t.* 32, *f. A. B. Fabricius, Ent. Syst.* III. I. *p.* 13. *Herbst, Pap. t.* 8, *f.* 3. *Esper, Ausl. Schmett. t.* 26, *f.* 1. *Donovan, Ins. of China, t.* 24, *f.* 2. *Godart, Enc. Méth.* IX. *p.* 28.

Iliades Agenor, *Hübner, Verz. bek. Schmett. p.* 89.

i. j. ♀. Java. From Dr. Horsfield's Collection.

Var. H. ♀ Papilio Achates, var., *De Haan, Verh. Nat. Gesch. p.* 24, *t.* 3, *f.* 3.

Var. I. ♀ Papilio Achates, *Cramer, Pap. Exot.* II. *t.* 182, *f. A. B.*; *t.* 243, *f. A.* (1777). *Fabricius, Ent. Syst.* III. I. *p.* 9. *Herbst, Pap. t.* 15, *f.* 1. *Esper, Ausl. Schmett. t.* 28, *f.* 1. *Godart, Enc. Méth.* IX. *p.* 64.

Achillides Achates, *Hübner, Verz. bek. Schmett. p.* 85.

Papilio Achatiades, *Esper, Ausl. Schmett. t.* 28, *f.* 2, *t.* 29, *f.* 1.

k. l. m. n. ♀. Java. From Dr. Horsfield's Collection.

Var. K. ♀ Papilio Alcanor, *Cramer, Pap. Exot.* II. *t.* 166, *f. A.* (1776). *Esper, Ausl. Schmett. t.* 34, *f.* 2.

Achillides Alcanor, *Hübner, Verz. bek. Schmett. p.* 85.

Papilio Alphenor, *Fabricius, Spec. Ins.* II. *p.* 4. *Herbst, Pap. t.* 16, *f.* 1.

o. ♀. Cherra Poonjee. Presented by Colonel Buckley.

The larva and pupa of *Papilio Memnon* are figured on Plate II., fig. 7, 7*a*, from Java.

203. *PAPILIO POLYMNESTOR, Cramer.*

Papilio Polymnestor, *Cramer, Pap.* I. *t.* 53, *f. A. B.* (1775). *Fabricius, Ent. Syst.* III. I. *p.* 18. *Herbst, Pap. t.* 7, *f.* 3, 4. *Esper, Ausl. Schmett. t.* 19, *f.* 1. *Donovan, Ins. of Ind. t.* 23, *f.* 2. *Godart, Enc. Méth.* IX. *p.* 29. *Lucas, Lep. Exot. t.* 12, *f.* 1. *Boisduval, Spéc. Gén. Lép.* I. *p.* 191. *De Haan, Verh. Naturl. Gesch. p.* 23. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 2; *Diurnal Lep. p.* 10, *n.* 29. *G. R. Gray, Cat. Lep. Brit. Mus. p.* 12, *n.* 46; id. *List Lep. Brit. Mus. pt.* I. *p.* 14.

Iliades Polymnestor, *Hübner, Verz. bek. Schmett. p.* 88.

a. ♂. Calcutta. Presented by Colonel Buckley.

b. ♀. N. India. From the Asiatic Society of Bengal.

c. Ceylon. Drawing. From Jonville's Collection.

The larva and pupa of *Pap. Polymnestor* are figured on Plate III., fig. 1, 1*a*, from Ceylon, where discovered by E. L. Layard, Esq.

204. *PAPILIO ISWARA, White.*

Papilio Iswara, *White, Entomologist* (1842), *p.* 280. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 4; *Diurnal Lep. p.* 11, *n.* 58, *t.* 2, *f.* 1. *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 19, *n.* 78; id. *List Lep. Brit. Mus. pt.* I. *p.* 23.

a. ♀. Pinang. Presented by the Trustees of the British Museum.

205. *PAPILIO HELENUS, Linnæus.*

Papilio Helenus, *Linnæus, S. N.* II. *p.* 754 (1767). *Clerck, Icon. t.* 13, *f.* 2. *Cramer, Pap. t.* 153, *f. A. B. Fabricius, Ent. Syst.* III. I. *p.* 2. *Herbst, Pap. t.* 14, *f.* 2. *Esper, Ausl. Schmett. t.* 2, *f.* 2.

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Godart, Enc. Méth. IX. *p.* 68. *Lucas, Lep. Exot. t.* 15, *f.* 2. *Boisduval, Spéc. Gén. Lép.* I. *p.* 211. *De Haan, Verh. Naturl. Gesch. p.* 30. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 4; *Diurnal Lep. p.* 11, *n.* 57. *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 18, *n.* 77; id. *List Lep. Brit. Mus. pt.* I. *p.* 23.

Achillides Helenus, *Hübner, Verz. bek. Schmett. p.* 85.

a. b. ♂ ♀. Java. From Dr. Horsfield's Collection.

c. ♂. Darjeeling. From Pearson's Collection.

d. ♀. Darjeeling. Presented by Colonel Buckley.

e. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

The larva and pupa of *Pap. Helenus* are figured on Plate III., fig. 2, 2*a*, from Canara, where discovered by S. N. Ward, Esq., E. I. C. civil service.

206. *PAPILIO CHAON, Westwood.*

Papilio Chaon, *Westwood, Arcana Ent. t.* 72, *f.* 1, 2 (1845). *E. Doubleday, List Lep. Brit. Mus. pt.* I. *App. p.* 2; *Diurnal Lep. p.* 11, *n.* 55. *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 18, *n.* 76; id. *List Lep. Brit. Mus. pt.* I. *p.* 23.

a. ♂. Assam. From the Asiatic Society of Bengal.

b. ♀. Cherra Poonjee. Presented by Colonel Buckley.

c. ♂. Darjeeling. Reserved from Indian Collection, Exposition Universelle at Paris, 1855.

d. ♂. Var. Borneo. Presented by H. Lowe, Esq.

207. *PAPILIO ROMULUS, Cramer.*

Papilio Romulus, *Cramer, Pap.* I. *t.* 43, *f. A.* (1775). *Esper, Ausl. Schmett. t.* 25, *f.* 2. *E. Doubleday, Diurnal Lep. p.* 10, *n.* 26; id. *List, p.* 13. *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 11, *n.* 42.

Menelaides Romulus, *Hübner, Verz. bek. Schmett. p.* 84.

Papilio Mutius, *Fabricius, Ent. Syst.* III. I. *p.* 3 (1793). *Godart, Enc. Méth.* IX. *p.* 70. *Boisduval, Spéc. Gén. Lép.* I. *p.* 270. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 10.

Papilio Mutius, var., ? *De Haan, Verh. Naturl. Gesch. p.* 6.

♀ Papilio Astyanax, *Fabricius, Ent. Syst.* III. I. *p.* 13 (1793). *Donovan, Ins. of Ind. t.* 23, *f.* 1; ex *Jones, Icon. ined.* I. *t.* 20. *Godart, Enc. Méth.* IX. *p.* 72. *Boisduval, Spéc. Gén. Lép.* I. *p.* 271.

a. b. c. ♂ ♀. N. India. Presented by the Asiatic Society of Bengal.

d. ♀. Calcutta. Presented by Colonel Buckley.

208. *PAPILIO POLYTES, Linnæus.*

Papilio Polytes, *Linnæus, S. N.* II. *p.* 746 (1767). *Clerck, Icon. t.* 14, *f.* 1. *Cramer, Pap.* III. *t.* 265, *f. A. B. C. Herbst, Pap. t.* 15, *f.* 2, ♀, *t.* 20; *f.* 3, 4, ♂. *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 2. *Esper, Ausl. Schmett. t.* 3, *f.* 1; *t.* 12, *f.* 1. *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 20, *n.* 83; id. *List Lep. Brit. Mus. pt.* I. *p.* 25.

Menelaides Polytes, *Hübner, Verz. bek. Schmett. p.* 85.

Princeps Heroicus Stichius, *Hübner, Samml. Exot.* I. *t.* 3.

Papilio Pammon ♀, *Boisduval, Spéc. Gén. Lép.* I. *p.* 272. *De Haan, Verh. Nat. Gesch. p.* 41. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 11; *Diurnal Lep. p.* 11, *n.* 62.

Var. Papilio Numa, *Weber, Observ. Entom. Kiel.* (1801), *p.* 106.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. f. ♂ ♀. Calcutta. From the Asiatic Society of Bengal.

g. h. ♂ ♀. N. India. Presented by Colonel Buckley.

i. ♀. Chusan. Presented by Dr. Cantor, 1842.

"The larva and pupa of *Pap. Polytes* are figured on Plate III., fig. 3, 3*a*, from Java, where it feeds on a species of *Citrus*, bearing the native name of *Juruk*, from January to May."—(Horsfield.)

"Not uncommon in the Dhoon during the rainy season, and at Rajpore, at the foot of the Hills, it is frequently met with."—(Captain T. Hutton, Trans. Ent. Soc. V. p. 49.)

"At Chusan, the perfect insect appears during August and September."—(Dr. Cantor's Notes.)

209. *PAPILIO PAMMON, Linnæus.*

Papilio Pammon, *Linn., S. N.* I. *p.* 746 (1767). *Clerck, Icon. t.* 14, *f.* 2, ♂. *Cramer, Pap. t.* 141, *f. B. Herbst, Pap. t.* 19, *f.* 4. *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 7. *Esper, Ausl. Schmett. t.* 4, *f.* 1; *t.* 40, *f.* 1. *Godart, Enc. Méth.* IX. *p.* 74. *Boisduval, Spéc. Gén. Lép.* I. *p.* 272. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 10; *Diurnal Lep. p.* 11, *n.* 62. *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 19, *n.* 82; id. *List Lep. Brit. Mus. pt.* I. *p.* 24.

Laertias Pammon, *Hübner, Verz. bek. Schmett. p.* 84.

Princeps Heroicus Pammon, *Hübner, Samml. Exot.* I. *t.* 108.

Var. A., *G. R. Gray.*

Papilio Cyrus, *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 7 (1793).

Laertias Cyrus, *Hübner, Samml. Exot.* II. *t.* 96.

Papilio Pammon, var., *Stoll, Cramer Pap. Suppl. t.* 33, *f.* 1.

Var. C.

Papilio Ledebouria, *Eschscholtz, in Kotzebue Voy.* III. *t.* 3, *f.* 7.

Papilio Alphenor (*Boisd.*), ♂, *De Haan, Verh. Nat. Gesch. p.* 41.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. f. ♂. N. India. In exchange.

g. h. ♂ ♀. Chusan. Presented by Dr. Cantor, 1842.

i. ♀. N. India. Donor unknown.

The larva and pupa of *Pap. Pammon* are figured on Plate III., fig. 4, 4*a*, from Java, "and feeds on a species of *Citrus*, bearing the native name of *Juruk*,—November to April. Note.—Every variety of *Juruk*, or Orange (*Gulug, Kina, Pichet*, &c.), produces a different butterfly, although scarcely any difference appears in the caterpillar."—(Horsfield, MS. Notes.)

R. Templeton, Esq., states that "the male of *P. Pammon* has a

little white mark near the anal angle of the posterior wing; the female an ocellus exactly resembling that of *P. Polytes;* all the other markings are the same in both [sexes,] except in the females they are larger and longer. The larvæ are particularly destructive to the lime-trees in Ceylon, as are also those of *P. Polymnester*, *Polydorus*, and *Hector*."—(Ent. Trans. V. p. 44.)

"At Chusan, the perfect insect was observed from July to September, inclusive."—(Dr. Cantor's Notes.)

"This is the most common species of the genus, being sometimes seen in dozens in the same field at Rajpore, and elsewhere in the Dhoon, during the months of August and September; nor are they uncommon in the glens of the mountains."—(Captain T. Hutton, Trans. Ent. Soc. V. p. 50.)

210. *PAPILIO DEMOLION, Cramer.*

Papilio Demolion, *Cramer, Pap.* I. *t.* 89, *f. A. B.* (1775). *Herbst, Pap. t.* 49, *f.* 1, 2. *E. Doubleday, Diurnal Lep. p.* 13, *n.* 94. *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 25, *n.* 116; id. *List Lep. Brit. Mus. pt.* I. *p.* 34.

Papilio Cresphontes, *Fabricius, Ent. Syst.* III. I. *p.* 33 (1793). *Godart, Enc. Méth.* IX. *p.* 61. *Boisduval, Spéc. Gén. Lép.* I. *p.* 220. *Lucas, Lep. Exot. t.* 15, *f.* 1. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 4.

Heraclides Cresphontes, *Hübner, Verz. bek. Schmett. p.* 84.

a. b. ♂ ♀. Java. From Dr. Horsfield's Collection.

c. ♂. Pinang. Presented by Dr. Cantor.

d. e. ♂ ♀. Borneo. Presented by H. Low, Esq.

The larva and pupa of *Pap. Demolion* are figured on Plate III., fig. 5, 5*a*, from Java; "and feeds on a species of *Fagara*, which bears the native name of *Sampang*,—March and April."—(Horsfield.)

211. *PAPILIO ERITHONIUS, Cramer.*

Papilio Erithonius, *Cramer, Pap.* III. *t.* 232, *f. A. B.* (1780). *Herbst, Pap. t.* 36, *f.* 5, 6. *E. Doubleday, Diurnal Lep. p.* 12, *n.* 71. *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 21, *n.* 92; id. *List Lep. Brit. Mus. pt.* I. *p.* 28.

Princeps Dominans Erithonius, *Hübner, Samml. Exot.* I. *t.* 116.

Papilio Epius, *Fabricius, Ent. Syst.* III. I. *p.* 35 (1793). *Jones, Icon. ined.* I. *t.* 61. *Donovan, Ins. of China, t.* 29, *f.* 2. *Godart, Enc. Méth.* IX. *p.* 43. *Boisduval, Spéc. Gén. Lép.* I. *p.* 238. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 7.

Orpheides Epius, *Hübner, Verz. bek. Schmett. p.* 86.

Papilio Demoleus, *apud Esper, Ausl. Schmett. t.* 50, *f.* 1, 4.

a. Canara. Presented by S. N. Ward, Esq.

b. c. ♂ ♀. Calcutta. Presented by Colonel Buckley.

d. Pinang. Presented by Dr. Cantor.

The larva and pupa are figured on Plate III., fig. 6, 6*a*, the discovery of which we owe to S. N. Ward, Esq., of the Madras civil service, from whose drawing our figures were copied.

Among the drawings made by Lady Gilbert in India, the transformations of this species are given, and her ladyship states the larva was brought to her on a branch of orange-tree on the 3rd July, and on the 8th it changed to a chrysalis, the perfect insect emerging on the 17th.

"The male of *P. Erithonius* is without the blue lunule, the female has it; and both sexes vary in having or not having one or two spots outside the closing vein of the discoidal cell of the lower wing; beneath, the markings in both are nearly identical, lunule and all." —(R. Templeton, Esq., Trans. Ent. Soc. V. p. 44.)

"Occurs in the Deyrah Dhoon, and likewise in the Hills during summer. I have received it from Madras, and frequently took it at Neemuch, in Western India. The larva feeds on the Citron, and is green, with a reddish or orange-coloured head; the fourth segment of the body is also bordered with the same colour, and there is a lateral oblique stripe on the hinder parts, which is blackish and edged with white; the spiracles are black: there are two short tentacular horns projecting from the anterior segment and two others from the anal segment, beneath which latter is a whitish stripe, running obliquely forwards and downwards; a white lateral stripe above the legs, which are yellowish."—(Captain T. Hutton, Proc. Ent. Soc. V. p. 48.)

212. *PAPILIO ARJUNA, Horsfield.*

Papilio Arjuna, *Horsfield, Cat. Lep. Mus. E.I.C. t.* 1, *f.* 4 (1828). *Boisduval, Spéc. Gén. Lép.* I. *p.* 209. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 4; *Diurnal Lep. p.* 11, *n.* 53. *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 17, *n.* 69; id. *List Lep. Brit. Mus. pt.* I. *p.* 21.

Papilio Paris, var., *Godart, Enc. Méth.* IX. *p.* 67.

Papilio Paris, *Zinken-Sommer, Nova Acta Acad. Nat. Cur.* XV. *p.* 142.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

The larva and pupa of *Pap. Arjuna* are figured on Plate III., fig. 7, 7*a*, from Java. "Feeds on a species of *Citrus*,—December." —(Horsfield.)

213. *PAPILIO PARIS, Linnæus.*

Papilio Paris, *Linnæus, S. N.* II. *p.* 745 (1767). *Clerck, Icones, t.* 13, *f.* 1. *Cramer, Pap.* . *t.* 103, *f. A.B. Drury, Ins.* I. *t.* 12, *f.* 1, 2. *Fabricius, Ent. Syst.* III. I. *p.* 1. *Herbst, Pap. t.* 14, *f.* 1, 2. *Esper, Ausl. Schmett. t.* 2, *f.* 1. *Donovan, Ins. of China, t.* 23. *Godart, Enc. Méth.* IX. *p.* 67. *Boisduval, Spéc. Gén. Lép.* I. *p.* 208. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 4; *Diurnal Lep. p.* 11, *n.* 52. *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 17, *n.* 68; id. *List Lep. Brit. Mus. pt.* I. *p.* 21.

Achillides Paris, *Hübner, Verz. bek. Schmett. p.* 85.

a. b. ♂. Cherra Poonjee. Presented by Colonel Buckley.

c. ♂. Darjeeling. From Pearson's Collection.

d. ♀. N. India. Presented by Lieutenant Hugo James.

e. ♂. Var. Canara. Presented by S. N. Ward, Esq.

214. *PAPILIO GANESA, E. Doubleday.*

Papilio Ganesa, *E. Doubleday, Gray's Zool. Misc. p.* 73 (1842); *List Lep. Brit. Mus. pt.* I. *p.* 4; *Diurnal*

Lep. p. 11, *n.* 48. *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 16, *n.* 66; id. *List Lep. Brit. Mus. pt.* I. *p.* 20.

a. ♂. Darjeeling. From Pearson's Collection.

b. ♂. N. India. Presented by the Trustees of the British Museum.

c. d. e. ♂ ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

215. *PAPILIO ARCTURUS, Westwood.*

Papilio Arcturus, *Westwood, Ann. N. H.* IX. *p.* 37 (1842); *Arcana Ent. t.* 27. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 3; *Diurnal Lep. p.* 11, *n.* 47. *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 17, *n.* 67; id. *List Lep. Brit. Mus. pt.* I. *p.* 21.

a. b. ♂. Darjeeling. Presented by Colonel Buckley.

c. ♀. Darjeeling. From Dr. Pearson's Collection.

d. ♀. Darjeeling. From the Asiatic Society of Bengal.

216. *PAPILIO KRISHNA, Moore* (*Plate* IIa., *fig.* 6).

Papilio Krishna, n. sp.—UPPER-SIDE black, irrorated with golden-green atoms; *fore-wing* with a well-defined transverse fascia of deep golden-green atoms from anterior margin, commencing at one-third of the length of the wing from the apex to posterior margin near the angle; *hind-wing* with a brilliant sky-blue sinuated patch near anterior angle, and connected with abdominal margin by a broad well-defined sinuous line of deep golden-green atoms; near the margin is a series of five crimson lunules, margined inwardly by a purplish-blue line, the one on the abdominal margin inclosing at the anal angle a black spot, which is bounded at the angle with ferruginous; the space between the sinuous line and patch and the lunules is pure black, without irrorations; the space from the lunules and down middle of tail with golden-green irrorations; indentations margined with white, and tinged inwardly with ferruginous. UNDER-SIDE black; both pair of wings basally irrorated with golden-green and whitish atoms; fascia of *fore-wing* creamy-white; *hind-wing* with creamy-white fascia from anterior margin near angle to middle of the wing, then branching upwards to abdominal margin; lunules

seven in number, brighter and broader than in upper-side; the indentations and anal angle with broad pale ferruginous lunules.

a. ♂. Bootan. From Pemberton's Collection.

b. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

217. *PAPILIO POLYCTOR, Boisduval.*

Papilio Polyctor, *Boisduval, Spéc. Gén. Lép.* I. *p.* 205 (1836). *Blanchard, Voy. de Jacquemont, Ins. t.* 1, *f.* 1, 2. *Kollar, in Hügel's Kaschmir, pt.* II. *p.* 403. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 3; *Diurnal Lep. p.* 11, *n.* 46. *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 16, *n.* 65; id. *List Lep. Brit. Mus. pt.* I. *p.* 20.

a. b. c. d. ♂ ♀. N. India. Presented by Colonel Buckley.

218. *PAPILIO CRINO, Fabricius.*

Papilio Crino, *Fabricius, Ent. Syst.* III. I. *p.* 5 (1793). *Donovan, Ins. of China, t.* 22; ex *Jones, Icon. ined.* I. *t.* 53. *Godart, Enc. Méth.* IX. *p.* 66. *Boisduval, Spéc. Gén. Lép.* I. *p.* 207. *Guérin, Rev. Zool.* (1840), *p.* 43, *t.* 1, *f.* 1. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *App. p.* 1; *Diurnal Lep. p.* 11, *n.* 50. *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 18, *n.* 73; id. *List Lep. Brit. Mus. pt.* I. *p.* 22.

Papilio Palinurus, var. (?), *De Haan, Verh. Natur. Gesch. pp.* 6, 28, *t.* 7½, *f.* 3.

a. ♂. Ceylon. Donor unknown.

b. ♀. Ceylon. From T. Tatum, Esq.

219. *PAPILIO PERANTHUS, Fabricius.*

Papilio Peranthus, *Fabricius, Ent. Syst.* III. I. *p.* 15 (1793). *Donovan, Ins. of China, t.* 26. *Godart, Enc. Méth.* IX. *p.* 66. *Lucas, Lep. Exot. t.* 12, *f.* 2. *Boisduval, Spéc. Gén. Lép.* I. *p.* 203. *De Haan, Verh. Natur. Gesch. p.* 27. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 3; *Diurnal Lep. p.* 11,

n. 44. *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 16, *n.* 63; id. *List Lep. Brit. Mus. pt.* I. *p.* 20.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

220. *PAPILIO BIANOR, Cramer.*

Papilio Bianor, *Cramer, Pap.* II. *t.* 103, *f. C.* (1776). *Fabricius, Ent. Syst.* III. I. *p.* 1. *Esper, Ausl. Schmett. t.* 35, *f.* 2. *Boisduval, Spéc. Gén. Lép.* I. *p.* 205. *De Haan, Verh. Natur. Gesch. p.* 28, *t.* 5, *f.* 1, ♂; *f.* 2, ♀. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 3; *Diurnal Lep. p.* 11, *n.* 45. *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 16, *n.* 64; id. *List Lep. Brit. Mus. pt.* I. *p.* 20.

Achillides Bianor, *Hübner, Verz. bek. Schmett. p.* 85.

Papilio Paris ♀, *Godart, Enc. Méth.* IX. *p.* 67.

a. ♀. N. India. Presented by the Trustees of the British Museum.

221. *PAPILIO GYAS, Westwood.*

Papilio Gyas, *Westwood, Arcana Ent. t.* 11, *f.* 1 (1842). *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 3; *Diurnal Lep. p.* 10, *n.* 43. *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 16, *n.* 62; id. *List Lep. Brit. Mus. pt.* I. *p.* 20.

a. b. ♂ ♀. Darjeeling. From Pearson's Collection.

222. *PAPILIO PAYENI, Boisduval.*

Papilio Payeni, *Boisduval, Spéc. Gén. Lép.* I. *p.* 235 (1836). *Van der Hoeven, Tijdsch. voor Nat. Gesch.* V. *t.* 8, *f.* 1, 2, 6. *E. Doubleday, Diurnal Lep. p.* 14, *No.* 103. *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 27, *n.* 125.

Papilio Evan, *E. Doubleday, Ann. Nat. Hist.* XVI. *n. s. pp.* 235, 304 (1845); *List Lep. Brit. Mus. pt.* I. *App. p.* 2; *Diurnal Lep. p.* 14, *No.* 104, *t.* 2, *f.* 1. *Westwood, Cab. Orient. Ent. t.* 31, *f.* 1.

a. ♂. Darjeeling. From Messrs. Schlagintweit's Collection.

223. *PAPILIO XUTHUS, Linnæus.*

Papilio Xuthus, *Linnæus, S. N.* II. *p.* 751 (1767). *Cramer, Pap.* I. *t.* 73, *f. A. B. Drury, Ins.* II. *t.* 9, *f.* 2. *Fabricius, Ent. Syst.* III. I. *p.* 32. *Herbst, Pap. t.* 49, *f.* 3, 4. *Godart, Enc. Méth.* IX. *p.* 58. *Boisduval, Spéc. Gén. Lép.* I. *p.* 327, *t.* 1, *f.* 1, 2. *Lucas, Lep. Exot. t.* 19, *f.* 1. *Herr. Schœff. Suppl. f.* 411—413. *De Haan, Verh. Natur. Gesch. p.* 41. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 15; *Diurnal Lep. p.* 16, *n.* 157. *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 36, *n.* 178; id. *List Lep. Brit. Mus. pt.* I. *p.* 49.

Jasoniades Xuthus, *Hübner, Verz. bek. Schmett. p.* 83.

a. b. ♂. N. India. In exchange.

c. ♀. Chusan. Presented by Dr. Cantor, 1844.

The larva of *Pap. Xuthus* is figured on Plate IV., fig. 1, copied from De Haan's figure.

"At Chusan, the perfect insect appears during August and September."—(Dr. Cantor's Notes.)

224. *PAPILIO MACHAON, Linnæus.*

Papilio Machaon, *Linnæus, S. N.* II. *p.* 750 (1767). *Rœsel, Ins.* I. II. *t.* 1. *Fabricius, Ent. Syst.* III. I. *p.* 30. *Herbst, Pap. t.* 45, *f.* 1, 2. *Hübner, Eur. Schmett. f.* 390, 391. *Godart, Enc. Méth.* IX. *p.* 57. *Boisduval, Spéc. Gén. Lép.* I. *p.* 328. *G. R. Gray, Lep. Ins. of Nepal, p.* 6, *t.* 3, *f.* 1. *Kollar, in Hügel's Kaschmir, pt.* II. *p.* 406. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 15; *Diurnal Lep. p.* 16, *n.* 158. *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 37, *n.* 180; id. *List Lep. Brit. Mus. pt.* I. *p.* 50.

Pieris Machaon, *Schrank.*

Jasoniades Machaon, *Hübner, Verz. bek. Schmett. p.* 83.

Amaryssus Machaon, *Dalm., Königl. Vet. Acad. Holm.* XXXVII. *p.* 85 (1816).

Var. ♀ Papilio Machaon, *De Haan, Verh. Natur. Gesch. p.* 42, *t.* 5, *f.* 2.

Var. Papilio Sphyrus, *Hübner, Europ. Schmett. f.* 776, 777.

a. ♂. Himalaya. From the Asiatic Society of Bengal.

b. *c*. ♂ ♀. N. India. Presented by Colonel Buckley.

d. ♂. Kumaon. Presented by Dr. McClelland.

e. ♀. Bootan. From Dr. Pemberton's Collection.

The transformations of *Pap. Machaon* are copied from Duponchel's work, and are figured on Plate IV., fig. 2, 2*a*.

Captain T. Hutton remarks: "*P. Machaon* is seen on the wing at Deyrah, in the valley of the Dhoon, as early as February, and in April its larvæ are abundant there on the Carrot. At Masuri, in the Hills, it appears in the latter end of March, and continues till October. The larva is green, with a black velvety transverse band across each segment, bearing four spots of bright orange; it possesses the orange-coloured retractile process in the head, from which exudes a liquid drop of a strong aromatic scent, when the insect is touched, precisely as in the European larva. The food is the wild and garden Carrot, and the leaves and flowers of the Radish. I have taken the larvæ at Masuri early in May, and the pupa on the 18th May. It is abundant about Simla, and extends far into the interior." —(Ent. Trans. V. p. 47.)

225. *PAPILIO CLOANTHUS, Westwood.*

Papilio Cloanthus, *Westwood, Arcana Ent. p.* 42, *t.* 11, *f.* 2 (1842). *Kollar, in Hügel's Kaschmir, pt.* II. *p.* 405. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 6; *Diurnal Lep. p.* 14, *n.* 116. *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 28, *n.* 136; id. *List Lep. Brit. Mus. pt.* I. *p.* 40.

a. *b*. ♂ ♀. N. India. Presented by Colonel Buckley.

c. ♀. N. India. From T. Tatum, Esq.

"This is very common in fine warm weather, flitting with great rapidity over the tops of the loftiest trees. It usually selects some lofty oak, over the summit of which it continues to dance with a jerking flight, like that of *P. Sarpedon*, until its domain is invaded by another individual, when a rapid chase round and round the tree takes place: one while they dart away from the tree down the side of the steep mountain, but ever and anon return to the favourite tree, until one is fairly driven off, when the other resumes its dance as before. It is difficult to capture, from its high and rapid flight.

It appears at the end of April, and continues throughout the summer."—(Captain T. Hutton, Tr. Ent. Soc. V. p. 51.)

226. *PAPILIO SARPEDON, Linnæus.*

Papilio Sarpedon, *Linn., S. N.* II. *p.* 747 (1767). *Rœsel, Ins. IV. t.* 6, *f.* 1. *Cramer, Pap.* II. *t.* 122, *f. D. E. Fabricius, Ent. Syst.* III. *pt.* I. *p.* 14. *Herbst, Pap. t.* 10, *f.* 4, 5. *Esper, Ausl. Schmett. t.* 8, *f.* 2. *Godart, Enc. Méth.* IX. *p.* 46. *Lucas, Lep. Exot. t.* 5, *f.* 1. *Boisduval, Spéc. Gén. Lép.* I. *p.* 235. *De Haan, Verh. Natur. Gesch. p.* 34. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 6; *Diurnal Lep. p.* 14, *n.* 115. *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 28, *n.* 135; id. *List Lep. Brit. Mus. pt.* I. *p.* 39.

Zetides Sarpedon, *Hübner, Verz. bek. Schmett, p.* 85; id. *Samml. Exot.* III. *t.* 471.

Chlorisses Sarpedon, *Swainson, Zool. Ill. 2nd ser. t.* 89.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. ♂. Canara. Presented by S. N. Ward, Esq.

f. N. India. Presented by Colonel Buckley.

The larva and pupa of *Pap. Sarpedon* are figured on Plate III., fig. 8, 8*a*; the larva copied from De Haan's figure, and the pupa from E. L. Layard's drawing, from Ceylon.

Mr. Edgar L. Layard states that the larva of *Pap. Sarpedon*, as observed in Ceylon, feeds on Cinnamon and Sour-sop.

"At Masuri this is one of the commonest, but not the least beautiful, of our butterflies; it appears early in May, and is found till the end of the rains in September. It usually frequents the top of oak-trees, where it flits about with a jumping or jerking flight, and is somewhat difficult to capture, from its quickness, and the height at which it keeps."—(Captain T. Hutton, Proc. Ent. Soc. V. p. 51.)

227. *PAPILIO EURYPYLUS, Linnæus.*

Papilio Eurypylus, *Linnæus, S. N.* II. *p.* 754 (1767). *Clerck, Icon. t.* 28, *f.* 2. *Cramer, Pap.* II. *t.* 122, *f. C. D. Fabricius, Ent. Syst.* III. I. *p.* 20. *Herbst, Pap. t.* 37, *f.* 5, 6. *Esper, Ausl. Schmett. t.* 33, *f.* 1. *Godart, Enc. Méth.* IX. *p.* 45. *Boisduval, Spéc.*

Gén. Lép. I. *p.* 233. *De Haan, Verh. Natur. Gesch. p.* 33. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 6; *Diurnal Lep. p.* 14, *n.* 113. *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 28, *n.* 133; id. *List Lep. Brit. Mus. pt.* I. *p.* 38.

Zetides Eurypylus, *Hübner, Verz. bek. Schmett. p.* 86; id. *Samml. Exot.* II. *t.* 106.

Papilio Jason, *apud Esper, Ausl. Schmett. t.* 58, *f.* 5.

a. b. ♂ ♀. Java. From Dr. Horsfield's Collection.

c. ♂. Silhet. Presented by Colonel Buckley.

d. e. ♂ ♀. N. India. From the Asiatic Society of Bengal.

228. *PAPILIO BATHYCLES, Zinken-Sommer.*

Papilio Bathycles, *Zinken-Sommer, Nova Acta Acad. Nat. Cur.* XV. *t.* 14, *f.* 6, 7 (1831). *Boisduval, Spéc. Gén. Lép.* I. *p.* 232. *Lucas, Lep. Exot. t.* 5, *f.* 2. *De Haan, Verh. Natur. Gesch. p.* 33. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 6; *Diurnal Lep. p.* 14, *n.* 111. *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 28, *n.* 132; id. *List Lep. Brit. Mus. pt.* I. *p.* 38.

a. b. ♀. N. India. Presented by the Trustees of the British Museum.

c. d. ♂ ♀. Darjeeling. Reserved from Indian Collection, Exposition Universelle at Paris, 1855.

229. *PAPILIO AGAMEMNON, Linnæus.*

Papilio Agamemnon, *Linnæus, S. N.* II. *p.* 748 (1767). *Fabricius, Ent. Syst.* III. I. *p.* 33. *Herbst, Pap. t.* 48, *f.* 1, 2. *Esper, Ausl. Schmett. t.* 46, *f.* 1, 2, 3. *Donovan, Ins. of China, t.* 27, *f.* 2. *Godart, Enc. Méth.* IX. *p.* 46. *Boisduval, Spéc. Gén. Lép.* I. *p.* 230. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 5; *Diurnal Lep. p.* 14, *n.* 109. *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 27, *n.* 130; id. *List Lep. Brit. Mus. pt.* I. *p.* 37.

Papilio Ægistus, *vel* Agamemnon, *Cramer, Pap. t.* 106, *f. C. D.*

Iphiclides Agamemnon, *Hübner, Verz. bek. Schmett. p.* 82.

a. b. ♂ ♀. Java. From Dr. Horsfield's Collection.
c. d. ♂. Silhet. Presented by Colonel Buckley.
e. ♀. Dukhun. Presented by Colonel Sykes.

The larva and pupa of *Papilio Agamemnon* are figured on Plate III., fig. 9, 9*a*, from Java, "where it feeds on a species of *Uvaria*, bearing the native name of *Kalak*,—December."—(Horsfield.)

230. *PAPILIO NOMIUS, Esper.*

Papilio Nomius, *Esper, Ausl. Schmett. t.* 52, *f.* 3 (1785). *Boisduval, Spéc. Gén. Lép.* I. *p.* 650. *E. Doubleday, Diurnal Lep. p.* 14, *n.* 119.

Papilio Orestes, *Fabricius, Ent. Syst.* III. I. *p.* 34 (1793); ex *Jones, Icon. ined.* I. *t.* 79. *Godart, Enc. Méth.* IX. *p.* 48. *Boisduval, Spéc. Gén. Lép.* I. *p.* 378. *Westwood, Arcana Ent. p.* 154. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 8. *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 29, *n.* 139; id. *List Lep. Brit. Mus. pt.* I. *p.* 40.

Papilio Niamus, *Godart, Enc. Méth.* IX. *p.* 51 (1816). *Swainson, Zool. Ill. 2nd ser. t.* 32.

Princeps Heroicus Meges, *Hübner, Samml. Exot.* I. *t.* 106.

Iphiclides Meges, *Hübner, Verz. bek. Schmett. p.* 82.

a. b. c. ♂ ♀. N. India. From the Asiatic Society of Bengal.

231. *PAPILIO ANTICRATES, E. Doubleday.*

Papilio Anticrates, *E. Doubleday, Ann. N. H.* XVIII. *p.* 371 (1846); *Diurnal Lep. p.* 14, *n.* 120; *List Lep. Brit. Mus. pt.* I. *App. p.* 2. *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 29, *n.* 140, *t.* 3, *f.* 3, 3*a*; id. *List Lep. Brit. Mus. pt.* I. *p.* 41.

a. ♂. N. India. Donor unknown.
b. c. ♂. Darjeeling. Reserved from Indian Collection, Exposition Universelle at Paris, 1855.

232. *PAPILIO ANTIPHATES, Cramer.*

Papilio Antiphates, *Cramer, Pap.* I. *t.* 72, *f. A. B.* (1775). *Fabricius, Ent. Syst.* III. I. *p.* 24; *Jones, Icon. ined. t.* 84. *Herbst, Pap. t.* 43, *f.* 1, 2. *Godart, Enc. Méth.* IX. *p.* 49. *Boisduval, Spéc. Gén. Lép.* I. *p.* 248. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 8; *Diurnal Lep. p.* 15, *n.* 125. *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 31, *n.* 147; id. *List Lep. Brit. Mus. pt.* I. *p.* 42.

Iphiclides Antiphates, *Hübner, Verz. bek. Schmett. p.* 82.

Papilio Alcibiades, *Fabricius, Ent. Syst.* III. *pt.* I. (1793), *p.* 25. *Godart, Enc. Méth.* IX. *p.* 49.

Papilio Pompilius, *Fabricius, Ent. Syst.* III. I. *p.* 25 (1793). *Godart, Enc. Méth.* IX. *p.* 49. *Lucas, Lep. Exot. t.* 22, *f.* 1.

Podalirius Pompilius, *Swainson, Zool. Ill. 2nd ser. t.* 105.

a. b. ♂ ♀. Java. From Dr. Horsfield's Collection.

c. d. ♂. Silhet. Presented by Colonel Buckley.

e. ♀. Borneo. Presented by H. Low, Esq.

The larva and pupa of *Pap. Antiphates* are figured on Plate III., fig. 10, 10*a*, from Java, "where it feeds on the same plant as *Pap. Agamemnon*."

233. *PAPILIO AGETES, Westwood.*

Papilio Agetes, *Westwood, Arcana Ent. t.* 56, *f.* 1, 2 (1844). *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 7; *Diurnal Lep. p.* 15, *n.* 123. *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 31, *n.* 145; id. *List Lep. Brit. Mus. pt.* I. *p.* 41.

a. ♀. N. India. Presented by the Trustees of the British Museum.

b. ♂. Darjeeling. Reserved from Indian Collection, Exposition Universelle at Paris, 1855.

234. *PAPILIO GLYCERION, G. R. Gray.*

Papilio Glycerion, *G. R. Gray, Lep. Ins. of Nepal, p.* 6, *t.* 3, *f.* 2 (1831). *J. E. Gray's Zool. Misc.* (1832), *p.* 32. *Boisduval, Spéc. Gén. Lép.* I. *p.* 247. *West-*

wood, *Arcana Ent. t.* 55, *f.* 3. *E. Doubleday, List Lep. Brit. Mus. pt.* 1, *p.* 8; *Diurnal Lep. p.* 15, *n.* 122. *G. R. Gray, Cat. Lep. Brit. Mus. pt.* I. *p.* 31, *n.* 144; id. *List Lep. Brit. Mus. pt.* I. *p.* 41.

a. b. ♂ ♀. N. India. Presented by Colonel Buckley.

c. d. ♂. Darjeeling. Reserved from Indian Collection, Exposition Universelle at Paris, 1855.

Remarks on the Chilognathiform, or Juliform, Stirps.

For the description of the larva and pupa of this Stirps, I refer the reader to the 12th page of the Introductory Remarks.

The Imago, or perfect insect, exhibits in the typical group the most perfect production of the whole order. The beauty of many of the large Papiliones is a subject of universal admiration: several of them are unrivalled in form and colouring.

Linnæus divides the genus Papilio into several phalanges. The first in order of these phalanges are designated *Nobiles*, the last *Plebeii*. The former of these, the *Equites*, is subdivided into—*a*, *Troes*, and *b*, *Achivi*. In these groups he perpetuates in Entomology, by a beautiful allegorical comparison, the names of the most distinguished heroes of Homer's Iliad, besides many other names renowned in ancient history.

Of the character of the *wings* no description can be given which would apply to the whole stirps. In the Piceridæ, the anterior wings are in general triangular, and the posterior wings short and obtuse. In the typical group, *Papilio*, the posterior wings are slightly falcate on the inner-margin, to give a free passage to the body. In many cases they are provided with tails, which are spatulate or contracted at the base. The *Pap. Machaon*, swallow-tail, is an example of this division.

The palpi, which in the Vermiform stirps are long, slender, and projecting, are in this stirps diversified in the different groups. In the Pieridæ they are of moderate length; and in the genus Terias, a diminution of their size is observed; in the typical group, with the exception of the genus *Teinopalpus* of Hope, they are shorter than the head, closely applied to it, and, in the true Papiliones, never exserted.

The antennæ, in the genus Papilio, exhibit three subdivisions.

First, antennæ filiform at the base, marked along their entire length with prominent annular rings, and terminated by a cylindrical club, which is attenuated at both ends. This division is exemplified in the following species of this Catalogue, viz.:—

Pap. Memnon (No. 202).
„ Polymnestor (No. 203).
„ Helenus (No. 205).
„ Polytes (No. 208).
„ Pammon (No. 209).
Pap. Demolion (No. 210).
„ Erithonius (No. 211).
„ Arjuna (No. 212).
„ Xuthus (No. 223).
„ Machaon (No. 224).

And by the metamorphoses of these species, viz.:—

Pap. Alcinous, Plate II. f. 6
„ Memnon, „ II. f. 7, 7*a*
„ Polymnestor, „ III. f. 1, 1*a*
„ Helenus, „ III. f. 2, 2*a*
„ Polytes, „ III. f. 3, 3*a*
„ Pammon, „ III. f. 4, 4*a*
Pap. Demolion, Plate III. f. 5, 5*a*
„ Erithonius, „ III. f. 6, 6*a*
„ Arjuna, „ III. f. 7, 7*a*
„ Xuthus, „ IV. f. 1
„ Machaon, „ IV. f. 2, 2*a*

The larva of this division is characterized by a smooth surface, and by a swelling or intumescence of the fourth or fifth segment of the body, from which it tapers more abruptly to the head, and in a gradual manner to the anal extremity. It is typical of the whole stirps, and represents, *par excellence*, the Chilognathiform division.

In the *second* division of the genus Papilio, the antennæ agree in form and outline with those of the first, but the annuli, or rings, along their entire length are comparatively obscure. This division is exemplified in the following species of this Catalogue, viz.:—

Ornithoptera Darsius (No. 176).
„ Pompeus (No. 177).
Papilio dissimilis (No. 187).
Papilio Hector (No. 189).
„ Diphilus (No. 190).

And the metamorphoses of the same species, which are figured on Plate II., figs. 1, 2, 3, 4, and 5.

The larva of this division is cylindrical, very slightly attenuated at the ends, somewhat thick and fleshy, smooth on the surface, and provided with short obtuse tubercles along its entire length. It represents the Chilopodiform modification of the genus Papilio.

In the *third* division of the genus Papilio, the antennæ are slender, filiform at the base, but terminated by an oval, comparatively enlarged compressed club, on which the annuli are closely arranged and

crowded. This division is exemplified in the following species of this Catalogue, viz. :—

Papilio Sarpedon (No. 226). | Papilio Agamemnon (No. 229).
Papilio Antipathes (No. 232).

And the metamorphoses of the same species, which are figured on Plate III., figs. 8, 9, and 10.

The larva of this division is smooth, slightly attenuated towards the extremities, somewhat broader or arched in the middle, and marked with regular transverse bands; but its chief character consists in two projecting points from the abdomen. It forms the Thysanuriform division of the genus Papilio.

The three divisions of the genus Papilio which have here been defined from the materials in the Museum, afford an indication of several distinct types of form, which in the larva state have an evident affinity to the Chilognathiform, Chilopodiform, and the Thysanuriform Ametabola; while, in each of these separate groups, the imago manifests a character which reciprocally confirms the distinct character of these divisions.

Whether in collections of greater extent and from more extensive regions, the Vermiform and Anopluriform representatives may be discovered, is a subject which remains for future research.

The general principle on which these divisions have been established, is in perfect consistence with the law above cited; namely, that in groups of consecutive minor value, the same principle is often found to prevail: of which, Messrs. De Haan and Vigors afford ample confirmation.

Without entering on further details, I submit this point to the consideration of Entomologists.—(Horsfield.)

Stirps III., with CHILOPODIFORM or SCOLOPENDRIFORM Larva.

CHILOPODIFORM or SCOLOPENDRIFORM, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 44 (1828).

PAP. DANAI FESTIVI (*part*), *Linnæus.*

PAP. NYMPHALES, GEMMATI *et* PHALERATI (*part*), *Linnæus.*

PAP. HELICONII, *Linnæus. Fabricius.*

DANAIDES, *Boisduval, Icon.* I. *p.* 84 (1832); id. *Spéc. Gén. Lép.* I. *p.* 165 (1836); id. *Index Méth. Eur. Lép. p.* 15 (1840). *Blanchard, Hist. Nat. des Ins.* II. *p.* 330 (1845).

DANAITES, *Blanchard, Hist. Nat. des Ins.* II. *p.* 330 (1845).

DANAIDÆ, *E. Doubleday, Diurnal Lep. p.* 84 (1847).

HELICONIDES, *Boisduval, Spéc. Gén. Lép.* I. *p.* 165 (1836).

HELICONIDÆ, *Westwood, Introd. to Entom.* II. *p.* 351 (1840). *E. Doubleday, Diurnal Lep. p.* 96 (1847).

HELICONIITES, *Blanchard, Hist. Nat. des Ins.* II. *p.* 330 (1845).

ACRÆIDÆ, *E. Doubleday, Diurnal Lep. p.* 137 (1848).

ARGYNNITES, *Blanchard, Hist. Nat. des Ins.* II. *p.* 331 (1845).

ARGYNNIDÆ, *Dup. C. p.* 2 (1846).

ARGYNNIDI, *Stephens, List Brit. Lep. Brit. Mus. pt.* I. *p.* 13 (1850). *Stainton, Manual Brit. Butt. pp.* 21, 41.

VANESSIDÆ, *Dup. C. p.* 6 (1846).

VANESSIDI, *Stephens, List Brit. Lep. Brit. Mus. pt.* I. *p.* 11 (1850). *Stainton, Manual Brit. Butt. pp.* 21, 36.

LEP. TETRAPODA (*part*), *Latreille, Règ. Anim.* V. *p.* 378 (1829).

NYMPHALIDÆ (*part*), *Swainson*; id. *Cab. Cyclop. pp.* 86, 92 (1840). *Stephens, Brit. Ent. Haust.* I. *p.* 27 (1827); id. *List Brit. Lep. Brit. Mus. pt.* I. *p.* 6 (1850). *Westwood, Introd. to Ent.* II. *p.* 353 (1840). *Dup. C. p.* 8 (1846). *Doubleday et Westwood, Diurnal Lep. p.* 144 (1852). *Stainton, Manual Brit. Butt. pp.* 10, 21 (1856).

NYMPHALIDES (*part*), *Boisduval, Spéc. Gén. Lép.* I. *p.* 165 (1836); id. *Index Méth. Eur. Lép. p.* 16. *Blanchard, Hist. Nat. des Ins.* II. *p.* 331.

NYMPHALII *et* NYMPHALITES (*part*), *Blanchard, Hist. Nat. des Ins.* II. *pp.* 322, 329, 332 (1845).

NYMPHALIDI (*part*), *Stephens, List Brit. Lep. Brit. Mus. pt.* I. *p.* 10 (1850). *Stainton, Manual Brit. Butt. pp.* 21, 33 (1856).

? PERIDROMIDÆ, *Boisduval, Spéc. Gén. Lép.* I. *p.* 164.

Genus DANAIS, *Latreille.*

DANAIDA, DANAUS, *or* DANAIS, *Latreille* (1805).

DANAIS, *Godart, Enc. Méth.* IX. (1819). *Boisduval. E. Doubleday, Diurnal Lep. p.* 89 (1847).

AMAURIS, HESTIA (*part*), EUPLŒA, ANOSIA, *Hübner, Verz. bek. Schmett.* (1816).

235. *DANAIS LIMNIACÆ, Cramer Sp.*

Papilio Limniacæ, *Cramer, Pap.* I. *t.* 59, *f. C. D.* (1775).

Danais Limniacæ, *Godart, Enc. Méth.* IX. *p.* 191. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 49; *Diurnal Lep. p.* 93, *n.* 31.

Papilio similis, *apud Fabricius, Ent. Syst.* III. I. *p.* 58.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. f. ♂ ♀. N. India. From the Asiatic Society of Bengal.

g. ♂. N. India. Presented by Colonel Sykes.

The larva and pupa of *Danais Limniacæ* are figured on Plate IV., fig. 3, 3*a*, from Java, "where it feeds on a species of *Epibatherium*, bearing the native name of *Tayungan*,—April."—(Horsfield, MS.)

The transformations of this species were also discovered by General Hardwicke.

236. *DANAIS MELISSA, Cramer Sp.*

Papilio Melissa, *Cramer, Pap. Exot.* IV. *t.* 377, *f. C. D.* (1782). *Herbst, Pap. t.* 125, *f.* 3, 4.

Danais Melissa, *Godart, Enc. Méth.* IX. *p.* 192. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 49; *Diurnal Lep. p.* 92, *n.* 28.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. ♂. N. India. Presented by Lieutenant Hugo James.

f. g. ♂. N. India. Presented by Colonel Bucklev.

237. *DANAIS SIMILIS, Linnæus Sp.*

Papilio similis, *Linnæus, Syst. Nat.* I. *p.* 479 (1758) id. *Linn. Syst. Nat.* II. *p.* 782. *Clerck, Icones, t.* 16, *f.* 3.

Danais similis, *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 49; *Diurnal Lep. p.* 92, *n.* 30.

Papilio Aventina, *Cramer, Pap. Exot.* I. *t.* 59, *f. F.* (1775).

Danais Aventina, *Godart, Enc. Méth.* IX. *p.* 191.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. ♂. N. India. Presented by the Trustees of the British Museum.

f. ♂. Borneo. Presented by H. Low, Esq.

238. *DANAIS GRAMMICA, Boisduval.*

Danais Grammica, *Boisduval, Spéc. Gén. Lép.* I. *t.* 11, *f.* 10 (1836). *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 50; *Diurnal Lep. p.* 92, *n.* 25.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. ♀. N. India. Presented by Colonel Sykes.

239. *DANAIS AGLEA, Cramer Sp.*

♂ Papilio Aglea, *Cramer, Pap. Exot.* IV. *t.* 377, *f. E.* (1782).

Danais Aglea, *Boisduval. E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 50; *Diurnal Lep. p.* 92, *n.* 22.

Danais similis, *apud Godart, Enc. Méth.* IX. *p.* 190.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. ♂. Bootan. From Pemberton's Collection.

f. g. ♂. N. India. Presented by Colonel Sykes.

h. i. ♀. N. India. Presented by Colonel Buckley.

240. *DANAIS JUVENTA, Cramer Sp.*

Papilio Juventa, *Cramer, Pap. Exot.* II. *t.* 188, *f. B.* (1780).

Danais Juventa, *Godart, Enc. Méth.* IX. *p.* 193. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 50; *Diurnal Lep. p.* 93, *n.* 34.

Hestia Juventa, *Hübner, Verz. bek. Schmett. p.* 15 (1816).

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. ♂. Borneo. Presented by H. Low, Esq.

The larva and pupa of *Danais Juventa* are figured on Plate IV., fig. 4, 4*a*, from Java, "and feeds on a plant bearing the native name of *Simbukan-rambat*,—April and May."—(Horsfield, MS.)

241. *DANAIS CLEONA, Cramer Sp.*

♂ Papilio Cleona, *Cramer, Pap. Exot.* IV. *t.* 377, *f. F.* (1782).

Danais Cleona, *Godart, Enc. Méth.* IX. *p.* 190. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 50; id. *Diurnal Lep. p.* 92, *n.* 27.

Hab. Moluccas (*Cramer*).

Var. Euplœa Philomela, *Zinken-Sommer, in Nova Acta Acad. Curios.* XV. *t.* 16, *f.* 17 (1831).

Danais Dorippa, *Boisduval, MS.*

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. ♂. Borneo. Presented by H. Low, Esq.

242. *DANAIS MELANEUS, Cramer Sp.*

Papilio Melaneus, *Cramer, Pap. Exot.* I. *t.* 30, *f. D.* (1775).

Danais Melaneus, *Godart, Enc. Méth.* IX. *p.* 192. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 50; *Diurnal Lep. p.* 93, *n.* 36.

a. b. ♂. N. India. Presented by Lieutenant Hugo James.

c. ♀. Pinang. Presented by Dr. Cantor.

d. ♂. Java. From Mr. Argent's Collection.

243. *DANAIS TYTIA, G. R. Gray Sp.*

Euplœa Tytia, *G. R. Gray, Lep. Ins. of Nepal, p.* 9, *t.* 9, *f.* 2 (1846).

Danais Tytia, *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 50; *Diurnal Lep. p.* 93, *n.* 35, *t.* 12, *f.* 4.

a. ♂. Bootan. From Pemberton's Collection.

b. c. ♀. Darjeeling. From Pearson's Collection.

d. ♂. N. India. Presented by Colonel Buckley.

e. ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

244. *DANAIS ABLATA, Zinken-Sommer Sp.*

Euplœa ablata, *Zinken-Sommer, in Nova Acta Acad. Curios.* XV. *t.* 16, *f.* 16 (1831).

Danais ablata, *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 50; *Diurnal Lep. p.* 93, *n.* 37.

a. ♀. Java. From Dr. Horsfield's Collection.

b. c. d. ♂ ♀. Java. From Mr. Argent's Collection.

245. *DANAIS PHILENE, Cramer Sp.*

Papilio Philene, *Cramer, Pap. Exot.* IV. *t.* 375, *f. A. B.* (1782).

Danais Philene, *Godart, Enc. Méth.* IX. *p.* 187. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 50; *Diurnal Lep. p.* 92, *n.* 17.

Euplœa Philene, *Hübner, Verz. bek. Schmett. p.* 15.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

The larva and pupa of *Danais Philene* are figured on Plate IV., fig. 5, 5*a*, from Java, "where it feeds on a species of *Cissus*, bearing the native name of *Galing*,—December."—(Horsfield, MS.)

246. *DANAIS PLEXIPPUS, Linnæus Sp.*

Papilio Plexippus, *Linnæus, Syst. Nat.* II. *p.* 767 (1767). *Fabricius, Ent. Syst.* III. I. *p.* 49.

Danais Plexippus, *Godart, Enc. Méth.* IX. *p.* 186. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 51; *Diurnal Lep. p.* 92, *n.* 16.

Euplœa Plexippus, *Hübner, Verz. bek. Schmett. p.* 15.

Papilio Genutia, *Cramer, Pap. Exot.* III. *t.* 206, *f. C. D.* (1780).

a. b. ♂. N. India. From the Asiatic Society of Bengal.

c. ♂. Assam. From Dr. McClelland's Collection.

d. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

The larva and pupa of *Danais Plexippus* are figured on Plate IV., fig. 6, 6*a*, copied from General Hardwicke's drawings.

247. *DANAIS MELANIPPUS, Cramer Sp.*

Papilio Melanippus, *Cramer, Pap. Exot.* II. *t.* 127, *f. A. B.* (1777).

Danais Melanippus, *Godart, Enc. Méth.* IX. *p.* 189. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 50.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

Var. Papilio Hegesippus, *Cramer, Pap. Exot.* II. *t.* 180, *f. A.* (1779). *Fabricius, Ent. Syst.* III. I. *p.* 52.

Euplœa Hegesippus, *Hübner, Verz. bek. Schmett. p.* 15.

Danais Hegesippus, *Godart, Enc. Méth.* IX. *p.* 189. *G. R. Gray, Lep. Ins. of Nepal, p.* 10, *t.* 9, *f.* 1. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 50; id. *Diurnal Lep. p.* 92, *n.* 19.

Danais Chirona, *G. R. Gray, Lep. Ins. of Nepal, p.* 10 (1833).

e. f. g. ♀. N. India. Presented by Colonel Buckley.

h. ♂. Pinang. Presented by Dr. Cantor.

248. *DANAIS LOTIS, Cramer Sp.*

Papilio Lotis, *Cramer, Pap. Exot.* III. *t.* 230, *f. D. E.* (1780).

Danais Lotis, *Godart, Enc. Méth.* IX. *p.* 189. *E. Doubleday, Diurnal Lep. p.* 92, *n.* 21; *List Lep. Brit. Mus. App.* 1848, *p.* 13.

Hestia Thoë, *Hübner, Verz. bek. Schmett. p.* 15 (1816).

Danais Edmondi, *Bougainville, Voy. de la Corvette Thétis, t.* 44, *f.* 8, 3 *bis* (1837).

a. ♂. Borneo. Presented by Hugh Low, Esq.

249. *DANAIS CHRYSIPPUS, Linnæus Sp.*

Papilio Chrysippus, *Linnæus, Syst. Nat.* II. *p.* 767 (1767). *Cramer, Pap. Exot.* II. *t.* 118, *f. B. C. Fabricius, Ent. Syst.* III. I. *p.* 50.

Danais Chrysippus, *Godart, Enc. Méth.* IX. *p.* 187. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 51; *Diurnal Lep. p.* 92, *n.* 14.

Euplœa Chrysippus, *Hübner, Verz. bek. Schmett. p.* 15.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. f. ♂. Darjeeling. From Pearson's Collection.

g. h. ♂ ♀. Madras. In exchange from Captain J. M. Jones.

The larva and pupa of *Danais Chrysippus* are figured on Plate IV., fig. 7, 7*a*, from Java, "where it feeds on *Asclepias gigantea*, the native name of which is *Widuri*,—February and March. Not common."—(Horsfield, MS.)

Genus EUPLŒA, *Fabricius.*

EUPLŒA, *Fabricius* (*Illiger's Mag.* 1807). *Horsfield. Boisduval. Doubleday, Diurnal Lep. p.* 86.

TERPSICHROIS, CRASTIA, SALPINX, DIDONIS, *Hübner, Verz. bek. Schmett.* (1816).

DANAUS, *p. Latreille.*

DANAIS, *p. Godart.*

250. *EUPLŒA RHADAMANTHUS, Fabricius Sp.*

♂ Papilio Rhadamanthus, *Fabricius, Ent. Syst.* III. I. *p.* 42 (1793). *Jones, Icon. t.* 45, *f.* 2.

Euplœa Rhadamanthus, *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 48; *Diurnal Lep. p.* 88, *n.* 23.

♀ Papilio Diocletianus, *Fabricius, Ent. Syst.* III. I. *p.* 40.

♀ Danais Diocletianus, *Godart, Enc. Méth.* IX. *p.* 181.

♂ Terpsichrois Thoösa, *Hübner, Samml. Exot. Schmett.* (1806-27).

♂ Danais Alcidice, *Godart, Enc. Méth.* IX. *p.* 181 (1819).

♂ Danais Rhadamia, *Godart, Enc. Méth.* IX. *p.* 180 (1819).

a. ♂. Java. From Dr. Horsfield's Collection.
b. c. ♂. N. India. Presented by Lieut. Hugo James.
d. ♂. Cherra Poonjee. Presented by Colonel Buckley.
e. ♀. Pinang. Presented by Dr. Cantor.
f. ♂. Borneo. Presented by Hugh Low, Esq.

251. *EUPLŒA MITRA, Moore.*

Euplœa Mitra, *Moore, Trans. Ent. Soc.* 1857, *p.* *t.* , *f.* .

a. ♂. Habitat and donor not preserved.

Euplœa Mitra, n. sp.—UPPER-SIDE pale chocolate-brown; *fore-wing* with a broad oblique transverse white fascia from anterior margin (beyond discoidal cell) to near middle of exterior margin, and there terminated by a separated round white spot; three small white spots near the apex of the wing, and a sub-marginal row of three or four rather indistinct spots: *hind-wing* with the anterior portion glaucous or silvery-whitish (somewhat as in *Euplœa Rhadamanthus*). UNDER-SIDE slightly paler; *fore-wing* tinged with glaucous posteriorly; fascia as in upper-side, and having a sub-marginal row of ten or twelve white spots, and a longitudinal oval mark of dull brown between the sub-median vein and median veinlet; *hind-wing* with two rows of sub-marginal white spots, and some spots about the disc, two being within discoidal cell. Expanse of wings $2\frac{3}{4}$ inches.

252. *EUPLŒA ELUSINE, Cramer Sp.*

Papilio Elusine, *Cramer, Pap. Exot.* III. *t.* 266, *f. D.* (1780).

Euplœa Elusine, *Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 47; *Diurnal Lep. p.* 87, *n.* 9.

Terpsichrois Elusine, *Hübner, Verz. bek. Schmett. p.* 16 (1816).

Danais Elusine, *Godart, Enc. Méth.* IX. *p.* 177 (1819).

a. b. c_1 *d*. ♂ ♀. Java. From Dr. Horsfield's Collection.

253. *EUPLŒA MAZARES, E. Doubleday, MS.*

Euplœa Mazares, *E. Doubleday, Diurnal Lep. p.* 87, *No.* 10 (1847). *Moore, Trans. Ent. Soc.* 1857, *p.* , *t.* , *f.* .

Salpinx Elusine, *apud Hübner, Samml. Exot. Schmett.* (1806-27)..

a. b. c. d. e. f. ♂ ♀. Java. From Dr. Horsfield's Collection.

Euplœa Mazares.—Male: UPPER-SIDE dark brown, paler on hind-wings; *fore-wing* with a brilliant blue gloss; a sub-marginal curved row of bluish-white spots from anterior margin near the apex, the spots lessening in size downwards; also a rather indistinct bluish spot on anterior margin near the middle: *hind-wing* with a creamy-white patch in anterior half, near the middle, and two small white spots near anterior angle. UNDER-SIDE paler brown, with a sub-marginal row of white spots, and also a marginal row of very minute spots: a costal white spot; a larger white spot near the discoidal cell, between the second and third median veinlets; also a creamy-white patch near posterior margin: *hind-wing* with a marginal half-row of minute white spots, commencing from anal angle, also a sub-marginal row curving from middle of anterior margin; some spots also at the base of the wings. Female as in male, but paler; the blue gloss less vivid, and the creamy-white patches obsolete. Shape of wings as in *Euplœa Elusine.* Expanse 2¼ inches.

254. *EUPLŒA MELINA, Godart Sp.*

Danais Melina, *Godart, Enc. Méth.* IX. *p.* 179 (1819).

Euplœa Melina, *Boisduval, Faune de l'Océanie, p.* 98. *E. Doubleday, Diurnal Lep. p.* 88, *n.* 17.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

255. *EUPLŒA HÜBNERI, Boisduval MS.*

Euplœa Hübneri, *Moore, Trans. Ent. Soc.* 1857, *p.* , *t.* , *f.* .

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

Euplœa Hübneri, n. sp.—Male: UPPER-SIDE dark velvety brown, palest exteriorly: *fore-wing* with a semicircular row of six small white spots, commencing from anterior margin near apex, and curving outwards; also a less distinct white spot near discoidal cell, between first and second median veinlets; an impressed dull-brown longitudinal streak between sub-median vein and median veinlet: *hind-wing* with only a row of three spots near anterior angle. UNDER-

SIDE pale brown: *fore-wing* with the semicircular row of spots, and a row outside discoidal cell, and one spot within it, that, and the lowest spot, being the largest: *hind-wing* with two short rows of spots near anterior angle, the outer row the smallest; and small spots outside and one within, discoidal cell; some spots also at the base of wings. Female: UPPER-SIDE paler brown: *fore-wing* with only three spots near apex, the indistinct spot near discoidal cell, and impressed brown mark: *hind-wing* without spots. UNDER-SIDE paler: *fore-wing* with spots near apex, as above; also one on middle of costal margin, one within and two outside discoidal cell, one being between each median veinlet; also the longitudinal streak, which is white: *hind-wing* with sub-marginal row of very small spots, also a row outside, and one spot within, discoidal cell. Wings shaped as in *Euplœa Elusine*. Expanse $3\frac{1}{4}$ inches.

256. *EUPLŒA CRAMERI, Boisduval MS.*

Euplœa Crameri, *Moore, Trans. Ent. Soc.* 1857, *p.* , *t.* , *f.* .

a. ♂. Borneo. Presented by Hugh Low, Esq.

Euplœa Crameri, n. sp.—UPPER-SIDE wholly velvety blackish-brown, having a bluish tint, and slightly paler on exterior margins: *fore-wing* with a short transverse row of six white spots from anterior margin, close to apex, the two first small, the third large and longest, fourth same size as first, fifth and sixth very small; also a small spot near discoidal cell, between first and second median veinlets: *hind-wing* with two small white spots near anterior angle. UNDER-SIDE clear deep brown; *fore-wing* with white spots, as in upper-side, also with three spots along costal margin, and some on the disc: *hind-wing* with a sub-marginal row of small white spots, and some on the disc. Expanse of wings $3\frac{5}{8}$ inches.

257. *EUPLŒA EUNICE, Godart Sp.*

Danais Eunice, *Godart, Enc. Méth.* IX. *p.* 177 (1819).

Euplœa Eunice, *Boisduval, Faune de l'Océanie, p.* 94 (1832). *Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 47; *Diurnal Lep. p.* 87, *n.* 1.

? Limnas mutabilis Nemertes, *Hübner, Samml. Exot. Schmett.* (1806–27).

Salpinx Nemertes, *Hübner, Verz. bek. Schmett. p.* 17 (1816).

a. ♂. Pinang. Presented by Dr. Cantor.

b. ♂. Java. Presented by the Trustees of the British Museum.

258. *EUPLŒA KLUGII, Boisduval MS.*

Euplœa Klugii, *Moore, Trans. Ent. Soc.* 1857, *p.* , *t.* , *f.* .

a. b. c. ♂ ♀. Bootan. From Dr. Pemberton's Collection.

d. ♂. N. India. Presented by Colonel Sykes.

Euplœa Klugii, n. sp.—Male: UPPER-SIDE deep brown, having on the *fore-wings* a brilliant blue gloss, a sub-marginal row of small bluish-white spots, and an inner parallel row of larger spots, also a bluish spot on costal margin; one within discoidal cell; two linear bluish marks, one between each discoidal veinlet; and a rather indistinct bluish mark between sub-median vein and median veinlet: *hind-wing* paler brown, darkest and glossed with blue in the middle; a sub-marginal row of white spots and a short inner row from anterior margin; also a patch of creamy-white near middle of the wing. UNDER-SIDE brown; *fore-wing* with the two rows of *white* spots smaller; one spot on costal margin, one small narrow spot between second discoidal and first median veinlets, and a larger spot between second and third median veinlets; a creamy-white patch on posterior base of the wing: *hind-wing* with two rows of white spots. Female: UPPER-SIDE nearly as in male, the *fore-wing* with the sub-marginal row of spots obsolete; *hind-wing* pale brown, darkest and slightly glossed with blue in the middle; two white spots only of inner row distinct, the rest of two rows indistinct; without the creamy-white patch. UNDER-SIDE nearly as in male, but not having the creamy-white patch. Shape of wings as in *Euplœa superba*, Herbst. Expanse 3⅝ inches.

259. *EUPLŒA PROTHOË, Godart Sp.*

Danais Prothoë, *Godart, Enc. Méth.* IX. *p.* 177 (1819).

Euplœa Prothoë, *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 47; *Diurnal Lep. p.* 87, *n.* 12.

♀ Papilio Midamus, *apud Cramer, Pap. Exot.* III. *t.* 266, *f. A. B.* (1780).

Euplœa Pavettæ, *Zinken-Sommer, in Nova Acta Acad. Nat. Curios.* XV. *p.* 189 (1831).

? Terpsichrois Alea, *Hübner, Verz. bek. Schmett. p.* 16 (1816).

a. ♂. Java. Presented by the Trustees of the British Museum.

The larva and pupa of *Euplœa Prothoë* are figured on Plate IV., fig. 8, 8*a*, from Ceylon, where discovered by E. L. Layard, Esq., from whose drawings our figures were copied.

260. *EUPLŒA SUPERBA, Herbst Sp.*

Papilio superba, *Herbst, Pap. t.* 119, 120 (1783–95).

Euplœa superba, *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 47; *Diurnal Lep. p.* 87, *n.* 14.

Danais Alopia, *Godart, Enc. Méth.* IX. *p.* 177 (1819).

Limnas mutabilis Midamis, *Hübner, Samml. Exot. Schmett.* (1806–27).

a. ♂. Darjeeling. From Pearson's Collection.

b. ♂. China. Presented by Dr. Cantor.

c. ♀. China. In exchange.

261. *EUPLŒA ALCATHOË, Godart Sp.*

Danais Alcathoë, *Godart, Enc. Méth.* IX. *p.* 178 (1819).

Euplœa Alcathoë, *Boisduval, Faune de l'Océanie, p.* 99. *E. Doubleday, Diurnal Lep. p.* 87, *n.* 16.

Euplœa Anthrax, *Boisduval MS.*

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. ♂. Silhet. Presented by the Trustees of the British Museum.

f. ♂. Darjeeling. From Messrs. Schlagintweit's Collection.

262. *EUPLŒA CORE, Cramer Sp.*

Papilio Core, *Cramer, Pap. Exot.* III. *t.* 266, *f. E. F.* (1780).

Euplœa Core, *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 49; *Diurnal Lep. p.* 88, *n.* 31.

Crastia Core, *Hübner, Verz. bek. Schmett. p.* 16 (1816).
Papilio Corus, *Fabricius, Ent. Sgst.* III. I. *p.* 41 (1793).
Danais Coreta, *Godart, Enc. Méth.* IX. *p.* 182 (1819).

a. b. c. ♂. N. India. Presented by Colonel Buckley.
d. ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

The larva and pupa of *Euplœa Core* are figured on Plate IV., fig. 9, 9*a*, which were discovered in Canara by S. N. Ward, Esq., and from whose drawings our figures were copied.

263. *EUPLŒA DEIONE, Westwood.*

Euplœa Deione, *Westwood, Cab. Orient. Entom. p.* 76, *t.* 37, *f.* 3 (1847).

a. ♂. Darjeeling. Reserved from Indian Collection, Exposition Universelle at Paris, 1855.

264. *EUPLŒA OCHSENHEIMERI, Boisduval MS.*

Euplœa Ochsenheimeri, *Moore, Trans. Ent. Soc.* 1857, *p.* , *t.* , *f.* .

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.
d. ♀. Java. Presented by the Trustees of the British Museum.

Euplœa Ochsenheimeri, n. sp.—Male: UPPER-SIDE silky brown, darkest on the hind-wings, and having a golden-greenish metallic lustre in some lights: *fore-wing* with a sub-marginal row of small white spots (two between each veinlet); two other parallel rows of somewhat larger spots (one between each veinlet in each row); also one spot between first and second branches of subcostal vein, and one within the discoidal cell; narrow ciliæ between indentations spotted with white: *hind-wing* with two short rows of four very small white spots near anterior angle; narrow ciliæ spotted with white. UNDER-SIDE as above, but the hind-wing having the sub-marginal row of white spots continued along the whole margin; also a row outside discoidal cell; some white spots also at the base of the wings. Female paler, the rows of white spots on upper-side of *fore-wing* disposed exactly the same, but are larger, those on the *hind-wing* more straggling, and but few being distinct. UNDER-SIDE as above, the

fore-wing having also a longitudinal club-shaped streak between submedian vein and median veinlet: *hind-wing* with three rows of white spots, also one spot within discoidal cell, and some spots disposed at base of the wings. Shape of wings as in *Euplœa Midamus*. Expanse of wings $3\frac{5}{8}$ inches.

265. *EUPLŒA MIDAMUS, Linnæus Sp.*

Papilio Midamus, *Linnæus, Syst. Nat.* II. *p.* 756 (1767). *Fabricius, Ent. Syst.* III. I. *p.* 39.

Euplœa Midamus, *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 47; *Diurnal Lep. p.* 87, *n.* 11.

Terpsichrois Midamus, *Hübner, Verz. bek. Schmett. p.* 16 (1816).

Danais Midamus, *Godart, Enc. Méth.* IX. *p.* 179.

Papilio Mulciber, *Cramer, Pap. Exot.* II. 127, *f. C.D.* (1776).

♀ Papilio Claudius, *Fabricius, Ent. Syst.* III. I. *p.* 40 (1793).

Danais Claudia, *Godart, Enc. Méth.* IX. *p.* 180.

♀ Papilio Basilissa, *Cramer, Pap. Exot.* III. *t.* 266, *f. C.* (1780).

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. f. ♂ ♀. Darjeeling. From Pearson's Collection.

g. Pinang. Presented by Dr. Cantor.

k. ♂. Borneo. Presented by H. Low, Esq.

The larva and pupa of *Euplœa Midamus* are figured on Plate IV., fig. 10, 10*a*, from Java, where it "feeds on a species of *Ficus*,—December."—(Horsfield, MS.)

Genus IDEOPSIS, *Horsfield.*

Danais (*Sect.* IV.), *E. Doubleday, Diurnal Lep. p.* 93 (1847).

"Closely resembles *Hestia* in form, texture, and colouring of the wings, and to which it has another resemblance in the absence of the sexual spot on the posterior wings. Like some species of the third section of *Danais*, and like the genus *Hestia*, it has the first subcostal veinlet anastomosing with the costal vein. Like most species of *Hestia*, the genus *Ideopsis* has the wings somewhat diaphanous, white; the outer margin, veins, veinlets, two or more vittæ in the cell,

and a series of dots between the veinlets sometimes coalescing, all fuscous: but, notwithstanding these points of resemblance, it may always be known from *Hestia* at first sight by its distinctly clavate antennæ, and on closer examination, by its claws devoid of parony-chia or pulvilli."—(Doubleday.)

266. *IDEOPSIS GAURA, Horsfield.*

Idea ? Gaura, *Horsfield, Cat. Lep. Mus. E.I.C. t.* 6, *f.* 1 (1829). *Boisduval, Spéc. Gén. Lép. t.* 11, *f.* 11.

Hestia Gaura, *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 52.

Danais Gaura, *E. Doubleday, Diurnal Lep. p.* 93, *n.* 38.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

267. *IDEOPSIS DAOS, Boisduval Sp.*

Idea Daos, *Boisduval, Spéc. Gén. Lép.* I. *t.* 24, *f.* 3 (1836).

Hestia Daos, *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 52.

Danais Daos, *E. Doubleday, Diurnal Lep. p.* 92, *n.* 39.

Hestia Eudora, *G. R. Gray, in Cat. Lep. Ins. of Nepal, p.* 10, *t.* 9, *f.* 3 (1846).

a. ♂. Pinang. Presented by Dr. Cantor.

The larva and pupa of *Ideopsis Daos* are figured on Plate IV., fig. 11, 11*a*, for which we are indebted to J. O. Westwood, Esq., and which were discovered by Captain Hamilton on the Tenasserim coast. —(Vide Trans. Ent. Soc. I. n. s. pp. 35, 36.)

Genus HESTIA, *Hübner.*

Hestia, *Hübner, Verz. bek. Schmett. p.* 15 (1816). *E. Doubleday, Diurnal Lep. p.* 94.

Idea, *Fabricius, Syst. Gloss.* (*Illiger's Mag.* VI. *p.* 283, 1808). *Latreille. Godart. Boisduval.*

268. *HESTIA LYNCEUS, Drury Sp.*

Papilio Lynceus, *Drury, Ins.* II. *t.* 7, *f.* 1 (1773).

Hestia Lynceus, *E. Doubleday, Diurnal Lep. p.* 95, *n.* 1, *t.* 13, *f.* 1 (*H. Idea, var. on plate*).

Idea Lynceus, *Godart, Enc. Méth.* IX. *p.* 195.

Papilio Idea, *Stoll, Suppl. à Cramer, Pap. Exot.* V. *t.* 42, *f.* 1 (1791).

a. ♂. Malacca. Presented by Colonel Buckley.

269. *HESTIA BELIA, Westwood.*

Hestia Belia, *Westwood, Cab. Orient. Ent. p.* 75, *t.* 37, *f.* 2 (1848).

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

The pupa of *Hestia Belia* is figured on Plate IV., fig. 12, drawn from a specimen taken in Java (from which the imago emerged) by Dr. Horsfield.

270. *HESTIA JASONIA, Westwood.*

Hestia Jasonia, *Westwood, Cab. Orient. Ent. p.* 87, *t.* 42, *f.* 1 (1848).

a. ♀. Canara (South India). Presented by S. N. Ward, Esq.

271. *HESTIA LEUCONOË, Erichson.*

Hestia Leuconoë, *Erichson, Nova Acta Acad. Nat. Cur.* XVI. *p.* 283 (1834). *E. Doubleday, Diurnal Lep. p.* 95, *n.* 4, *t.* 13, *f.* 2.

a. b. ♀. Borneo. Presented by Hugh Low, Esq.

Genus TELCHINIA, *Hübner.*

Telchinia, *Hübner, Verz. bek. Schmett. p.* 27 (1816).

Acræa (Telchinia), *E. Doubleday, Diurnal Lep. p.* 141 (1848).

272. *TELCHINIA VIOLÆ, Fabricius Sp.*

Papilio Violæ, *Fabricius, Syst. Ent. p.* 460 (1775); *Ent. Syst.* III. I. *p.* 164 (1793).

Acræa Violæ, *Godart, Enc. Méth.* IX. *p.* 231. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 62.

Acræa (Telchinia) Violæ, *E. Doubleday, Diurnal Lep. p.* 142.

Papilio Cephea, *Cramer, Pap. Exot.* III. *t.* 298, *f. D. E.* (1782).

Telchinia Cephea, *Hübner, Verz. bek. Schmett. p.* 27.

a. b. c. N. India. From the Asiatic Society of Bengal.

The larva and pupa of *Telchinia Violæ* are figured on Plate V., fig. 1, 1*a*, copied from General Hardwicke's drawings in the British Museum.

Genus PAREBA, *E. Doubleday.*

Acræa (Pareba), *E. Doubleday, Diurnal Lep. p.* 142 (1848).

273. *PAREBA VESTA, Fabricius Sp.*

Papilio Vesta, *Fabricius, Man. Ins.* II. *p.* 14 (1787); *Ent. Syst.* III. I. *p.* 163 (1793).

Acrœa Vesta, *Godart, Enc. Méth.* IX. *p.* 233. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 63.

Acrœa (Pareba) Vesta, *E. Doubleday, Diurnal Lep. p.* 142.

Papilio Terpsichore, *Cramer, Pap. Exot.* III. *t.* 228, *f. A.B.C.* (1782).

Telchinia Issoria, *Hübner, Verz. bek. Schmett. p.* 27 (1816).

Var. ♀ Acrœa anomala, *Kollar, in Hügel's Kaschmir*, IV. *pt.* II. *p.* 425, *t.* 3, *f.* 3, 4 (1845).

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. f. ♂. Darjeeling. From Pearson's Collection.

g. ♂. Bootan. From Pemberton's Collection.

h. ♀. N. India. From the Asiatic Society of Bengal.

i. ♀. (*A. anomala*, Kollar). N. India. Presented by Colonel Buckley.

The larva and pupa of *Pareba Vesta* are figured on Plate V., fig. 2, 2*a*, from Java, "where it feeds on a species of *Urtica*, bearing the native name of *Latungan*,—December."—(Horsfield, MS.)

Genus VANESSA, *Fabricius.*

Vanessa, *Fabricius* (*Illiger's Mag.* VI. 1808). *E. Doubleday, Diurnal Lep. p.* 198.

Eugonia; Inachis, *Hübner, Verz. bek. Schmett.* (1816).

274. *VANESSA ANTIOPA, Linnæus Sp.*

Papilio Antiopa, *Linnæus, Syst. Nat.* II. *p.* 766 (1767).

Vanessa Antiopa, *Ochsenheimer, Schmett. von Eur.* IV. *p.* 16. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 80; *Diurnal Lep. p.* 200, *n.* 10.

Eugonia Antiopa, *Hübner, Verz. bek. Schmett. p.* 37.

a. ♀. Bootan. From Pemberton's Collection.

275. *VANESSA XANTHOMELAS, Denis et Schiff. Sp.*

Papilio xanthomelas, *Denis et Schiffermüller, Wien. Verz. p.* 175 (1776). *Hübner, Samml. Europ. Schmett. Pap. f.* 85, 86.

Vanessa xanthomelas, *Ochsenheimer, Schmett. von Eur.* IV. *p.* 17. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 81; *Diurnal Lep. p.* 200, *n.* 4.

a. ♀. Darjeeling. Presented by Colonel Buckley.

276. *VANESSA CASHMIRENSIS, Kollar.*

Vanessa Cashmirensis, *Kollar, in Hügel's Kaschmir,* IV. *pt.* II. *p.* 442, *t.* 9, *f.* 3, 4 (1844). *E. Doubleday, Diurnal Lep. p.* 200, *n.* 5.

Vanessa Flacilla, *E. Doubleday. G. R. Gray, Lep. Ins. of Nepal, p.* 11 (1846).

a. b. c. ♂ ♀. Bootan. From Pemberton's Collection.

d. ♂. N. India. Presented by Colonel Buckley.

e. ♀. Ladakh. Presented by Captain Strachey.

277. *VANESSA CHARONIA, Drury Sp.*

Papilio Charonia, *Drury, Ins.* I. *t.* 15, *f.* 1, 2 (1770). *Cramer, Pap. Exot.* I. *t.* 47, *f. A.B.C. Fabricius, Ent. Syst.* III. I. *p.* 119.

Vanessa Charonia, *Godart, Enc. Méth.* IX. *p.* 308. *Kollar, in Hügel's Kaschmir,* IV. *pt.* II. *p.* 442. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 80; *Diurnal Lep. p.* 201, *n.* 12.

a. b. c. ♂ ♀. N. India. Presented by Colonel Buckley.

d. ♀. N. India. From Mr. Argent's Collection.

Genus GRAPTA, *Kirby.*

Grapta, *Kirby, Fauna Bor. Amer. p.* 292 (1837).

Polygonia, *p.*; Eugonia, *p. Hübner.*

278. *GRAPTA C. AUREUM, Linnæus Sp.*

Papilio C. aureum, *Linnæus, Syst. Nat.* II. *p.* 778 (1767).

Grapta C. aureum, *E. Doubleday, Diurnal Lep. p.* 197, *n.* 1.

Vanessa C. aureum, *Godart, Enc. Méth.* IX. *p.* 304. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 81.

Papilio Angelica, *Cramer, Pap. Exot.* IV. *t.* 388, *f. G. H.* (1782).

Eugonia Angelica, *Hübner, Verz. bek. Schmett. p.* 26.

a. ♂. Pinang. Presented by Dr. Cantor.

Genus PYRAMEIS, *Hübner.*

Pyrameis, *Hübner, Verz. bek. Schmett.* 1816. *E. Doubleday, Diurnal Lep. p.* 202 (1849).

Vanessa, *p. Latreille. Godart. Hübner.*

Cynthia, *p. Fabricius.*

279. *PYRAMEIS CALLIRHOË, Hübner.*

Hamadryas Callirhoë, *Hübner, Samml. Exot. Schmett.* (1806–16).

Pyrameis Callirhoë, *Hübner, Verz. bek. Schmett. p.* 33 (1816). *E. Doubleday, Diurnal Lep. p.* 204.

Vanessa Callirhoë, *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 78. *G. R. Gray, Lep. Ins. of Nepal, p.* 11.

Vanessa Vulcania, *Godart, Enc. Méth.* IX. *p.* 320 (1819). *Kollar, in Hügel's Kaschmir,* IV. *pt.* II. *p.* 442.

Papilio Atalanta, *Cramer, Pap. Exot.* I. *t.* 84, *f. E. F.*

a. b. c. ♂ ♀. Darjeeling. From Pearson's Collection.

d. ♀. N. India. Presented by Colonel Hearsey.

e. ♂. Ladakh. Presented by Captain Strachey.

f. ♀. Pinang. Presented by Dr. Cantor.

280. *PYRAMEIS CARDUI, Linnæus Sp.*

Papilio Cardui, *Linnæus, Syst. Nat.* II. *p.* 774 (1767).

Pyrameis Cardui, *E. Doubleday, Diurnal Lep. p.* 205, *n.* 7.

Vanessa Cardui, *Hübner, Verz. bek. Schmett. p.* 73. *Godart, Enc. Méth.* IX. *p.* 323. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 79.

Cynthia Cardui, *Stephens, Ill. Haust.* I. *p.* 47.

Papilio Carduelis, *Cramer, Pap.* I. *t.* 26, *f. E.F.* (1775).

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. ♂. Madras. From Captain J. M. Jones's Collection, 1856.

f. ♂. Darjeeling. From Pearson's Collection.

g. h. ♂ ♀. Bootan. From Pemberton's Collection.

The larva and pupa of *Pyrameis Cardui* are figured on Plate V., fig. 3, 3*a*, from Java, "where it feeds on a species of *Artemisia* the native name of which is *Godomollo*,—December."—(Horsfield, MS.)

Genus JUNONIA, *Hübner.*

JUNONIA, *Hübner, Verz. bek. Schmett. p.* 34 (1816). *E. Doubleday, Diurnal Lep. p.* 206.

VANESSA, *p. Fabricius. Godart. &c.*

281. *JUNONIA LEMONIAS, Linnæus Sp.*

Papilio Lemonias, *Linnæus, Syst. Nat.* II. *p.* 770 (1767). *Fabricius, Ent. Syst.* III. I. *p.* 90.

Junonia Lemonias, *E. Doubleday, Diurnal Lep. p.* 208, *n.* 1.

Vanessa Lemonias, *Godart, Enc. Méth.* IX. *p.* 310. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 83.

Papilio Aonis, *Cramer, Pap. Exot.* I. *t.* 35, *f. D.E.F.* (1775).

a. ♂. N. India. From the Asiatic Society of Bengal.

b. ♂. Assam. From McClelland's Collection.

c. ♀. N. India. Presented by Colonel Buckley.

d. ♂. Pinang. Presented by Dr. Cantor.

282. *JUNONIA ERIGONE, Cramer Sp.*

Papilio Erigone, *Cramer, Pap. Exot.* I. *t.* 62, *f. E.F.* (1775).

Junonia Erigone, *E. Doubleday, Diurnal Lep. p.* 209, *n.* 3.
Temenis Erigone, *Hübner, Verz. bek. Schmett. p.* 34.
Vanessa Erigone, *Godart, Enc. Méth.* IX. *p.* 311. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 83.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

283. *JUNONIA LAOMEDIA, Linnæus Sp.*

Papilio Laomedia, *Linnæus, Syst. Nat.* II. *p.* 772 (1767). *Drury, Ins.* I. *t.* 5, *f.* 3. *Cramer, Pap. Exot.* I. *t.* 8, *f. F. G. Fabricius, Ent. Syst.* III. I. *p.* 98.
Junonia Laomedia, *E. Doubleday, Diurnal Lep. p.* 209, *n.* 4.
Temenis Laomedia, *Hübner, Verz. bek. Schmett. p.* 34.
Vanessa Laomedia, *Godart, Enc. Méth.* IX. *p.* 322. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 83.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.
e. ♂. Dukhun. Presented by Colonel Sykes.
f. ♀. Calcutta. Presented by Colonel Buckley.
g. ♀. China. Presented by Dr. Cantor.

The larva and pupa of *Junonia Laomedia* are figured on Plate V., fig. 4, 4*a*, from Java, "where it feeds on a species of *Achyranthes*, bearing the native name of *Krema*,—January and February."—(Horsfield, MS.)

284. *JUNONIA ŒNONE, Linnæus Sp.*

Papilio Œnone, *Linnæus, Syst. Nat.* II. *p.* 770 (1767). *Cramer, Pap. Exot.* I. *t.* 35, *f. A. B. C. Fabricius, Ent. Syst.* III. I. *p.* 90.
Junonia Œnone, *Hübner, Verz. bek. Schmett. p.* 34. *E. Doubleday, Diurnal Lep. p.* 209, *n.* 7.
Vanessa Œnone, *Godart, Enc. Méth.* IX. *p.* 318. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 78.
Var. Papilio Hierta, *Fabricius, Ent. Syst.* V. *p.* 424 (1798).
Vanessa Hierta, *Godart, Enc. Méth.* IX. *p.* 318.

a. b. c. ♂ ♀. N. India. Presented by Colonel Buckley.
d. e. ♂ ♀. Dukhun. Presented by Colonel Sykes.

285. *JUNONIA ORITHYIA, Linnæus Sp.*

Papilio Orithyia, *Linnæus, Syst. Nat.* II. *p.* 770 (1767). *Fabricius, Ent. Syst.* III. I. *p.* 91. *Cramer, Pap. Exot.* I. *t.* 19, *f. C.D.* ♀; id. *t.* 32, *f. E.F.* ♂; id. III. *t.* 290, *f. A.B.* ♂; *t.* 281, *f. E.F.*; *t.* 290, *f. C.D.*

Junonia Orithyia, *Hübner, Verz. bek. Schmett. p.* 34. *E. Doubleday, Diurnal Lep. p.* 209, *n.* 8.

Vanessa Orithyia, *Godart, Enc. Méth.* IX. *p.* 317; id. *Enc. Méth.* IX. *Suppl. p.* 821. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 77.

? Junonia Ocyale, *Hübner, Verz. bek. Schmett. p.* 34 (1816). *E. Doubleday, Diurnal Lep. p.* 209, *n.* 9.

a. b. c. d. e. f. g. h. Java. From Dr. Horsfield's Collection.

i. ♀. Sumatra. From Raffles's Collection.

j. k. ♂ ♀. Pinang. Presented by Dr. Cantor.

l. m. ♂ ♀. N. India. Presented by Colonel Buckley.

n. ♀. Bootan. From Pemberton's Collection.

o. ♂. Canara. Presented by S. N. Ward, Esq.

The larva and pupa of *Junonia Orithyia* are figured on Plate V., fig. 5, 5*a*, from Java, "and feeds on a species of *Vitex*, bearing the native name of *Laban*,—December."—(Horsfield, MS.)

286. *JUNONIA VELLIDA, Fabricius Sp.*

Papilio Vellida, *Fabricius, Ent. Syst.* III. I. *p.* 91 (1793). *Donovan, Ins. of New Holland, t.*

Junonia Vellida, *E. Doubleday, Diurnal Lep. p.* 209, *n.* 14.

Vanessa Vellida, *Godart, Enc. Méth.* IX. *Suppl. p.* 807. *Boisduval, Voy. de l'Astrolabe, p.* 120. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 77.

Vanessa Calybe, *Godart, Enc. Méth.* IX. *p.* 316 (1819).

a. b. ♂ ♀. Java. From Dr. Horsfield's Collection.

c. ♂. Sumatra. From Raffles's Collection.

Remark.—These specimens of *Vanessa Vellida* have been compared at the British Museum with examples from Australia, with which they are perfectly identical.

287. *JUNONIA ASTERIE, Linnæus Sp.*

Papilio Asterie, *Linnæus, Syst. Nat.* II. *p.* 769 (1767). *Cramer, Pap. Exot.* I. *t.* 58, *f. D.E. Fabricius, Ent. Syst.* III. I. *p.* 89.

Junonia Asterie, *E. Doubleday, Diurnal Lep. p.* 209, *n.* 15.

Alcyoneis Asterie, *Hübner, Verz. bek. Schmett. p.* 35.

Vanessa Asterie, *Godart, Enc. Méth.* IX. *p.* 321. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 76.

a. b. c. ♂ ♀. Java. From Dr. Horsfield's Collection.

d. e. ♂ ♀. N. India. Presented by Colonel Buckley.

The larva and pupa of *Junonia Asterie* are figured on Plate V., fig. 6, 6*a*, from Java, "and feeds on a species of *Justicia*, bearing the native name of *Keji-Wangu*,—March."—(Horsfield, MS.)

288. *JUNONIA ALMANA, Linnæus Sp.*

Papilio Almana, *Linnæus, Syst. Nat.* II. *p.* 769 (1767). *Cramer, Pap. Exot.* I. *t.* 58, *f. F.G. Fabricius, Ent. Syst.* III. I. *p.* 89.

Junonia Almana, *E. Doubleday, Diurnal Lep. p.* 209, *n.* 16.

Alcyoneis Almana, *Hübner, Verz. bek. Schmett. p.* 35.

Vanessa Almana, *Godart, Enc. Méth.* IX. *p.* 313. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 77.

a. b. ♂. N. India. From the Asiatic Society of Bengal.

c. ♀. Assam. From Dr. McClelland's Collection.

d. e. ♂ ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

Genus PRECIS, *Hübner.*

Precis, *Hübner, Verz. bek. Schmett.* (1816).

Junonia, Sect. II. (Precis), *E. Doubleday, Diurnal Lep. p.* 209 (1849).

Salamis, *p. Boisduval.*

289. *PRECIS IDA, Cramer Sp.*

Papilio Ida, *Cramer, Pap. Exot.* I. *t.* 42, *f. C.D.* (1775); id. IV. *t.* 374, *f. C.D.*

Vanessa Idamene, *Godart, Enc. Méth.* IX. *p.* 315 (1819).
Junonia (Precis) Iphita, ♀, *apud E. Doubleday, Diurnal Lep. p.* 210, *n.* 32.
? Papilio Zelima, *Donovan, Ins. of India* (1800–3).

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.
e. ♂. Pinang. Presented by Dr. Cantor.

290. *PRECIS IPHITA, Cramer Sp.*

Papilio Iphita, *Cramer, Pap. Exot.* III. *t.* 209, *f. C.D.* (1780). *Fabricius, Ent. Syst.* III. I. *p.* 109.
Vanessa Iphita, *Godart, Enc. Méth.* IX. *p.* 314.
Salamis Iphita, *Boisduval. E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 85.
Junonia (Precis) Iphita, *E. Doubleday, Diurnal Lep. p.* 210, *n.* 32.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.
e. f. ♂. Darjeeling. From Pearson's Collection.
g. h. ♂ ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

291. *PRECIS HARA, Moore* (*Plate* III*a., fig.* 1).

Precis Hara, n. sp.—UPPER-SIDE golden-brown, darker on outer margins: *fore* and *hind-wings* each having three narrow transverse black bands on the anterior half of the wings, the outer band on hind-wing being zig-zagged, with a parallel row of small black spots between the outer and middle band; within each discoidal cell are two narrow and rather square-shaped spaces, those on the hind-wing being the narrowest. UNDER-SIDE dull brown, marked as above, with deep brown, but the two inner bands broad, the outer very narrow; on the *hind-wing*, above the marks, within discoidal cell, is a narrow brown mark; the outer margins are also deep brown.

a. ♂. Silhet: Presented by the Trustees of the British Museum.
b. c. d. ♂. N. India. Presented by Lieut. Hugo James.
e. ♀. N. India. Presented by Colonel Buckley.

292. *PRECIS POLYNICE, Cramer Sp.*

Papilio Polynice, *Cramer, Pap. Exot.* II. *t.* 195, *f. D.E.* (1780). *Fabricius, Ent. Syst.* III. I. *p.* 89.

Junonia (Precis) Polynice, *E. Doubleday, Diurnal Lep. p.* 210, *n.* 35.

Vanessa Polynice, *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 80.

Vanessa Polynissa, *Godart, Enc. Méth.* IX. *p.* 308 (1819).

a. ♀. Java. From Dr. Horsfield's Collection.

Genus *ERGOLIS, Boisduval.*

Ergolis, *Boisduval, Spéc. Gén. Lép.* I. *p.* 2, *t.* 4, *f.* 4 (1836). *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 409 (1851).

Ariadne, *Horsfield, Cat. Lep. Mus. E.I.C. t.* 6, *f.* 2 (1829).

Elymnias, *p. Hübner.*

Biblis, *p. Godart.*

293. *ERGOLIS ARIADNE, Linnæus Sp.*

Papilio Ariadne, *Linnæus, Syst. Nat.* II. *p.* 778 (1767). *Fabricius, Syst. Ent. p.* 507.

Ergolis Ariadne, *Boisduval. E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 145. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 410, *n.* 1.

Elymnias Ariadne, *Hübner, Verz. bek. Schmett. p.* 328.

Biblis Ariadne, *Godart, Enc. Méth.* IX. *p.* 327.

Papilio Merione, *Cramer, Pap. Exot.* II. *t.* 144, *f. G.H.* (1779).

a. b. ♂ ♀. N. India. Presented by Colonel Sykes.

c. d. ♂ ♀. Darjeéling. From Pearson's Collection.

294. *ERGOLIS CORYTA, Cramer Sp.*

Papilio Coryta, *Cramer, Pap. Exot.* I. *t.* 86, *f. E.F.* (1779).

Ergolis Coryta, *Boisduval, Spéc. Gén. Lép.* I. *p.* 2, *t.* 4, *f.* 4. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 145. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 410, *n.* 2.

Ariadne Coryta, *Horsfield, Cat. Lep. Mus. E.I.C. t.* 6, *f.* 2.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. f. ♂ ♀. N. India. From the Asiatic Society of Bengal.

g. ♂. Assam. From McClelland's Collection.

h. ♂. Madras.

The larva and pupa of *Ergolis Coryta* are figured on Plate VI., fig. 6, 6*a*, from Java, and "feeds on the *Jarak* (*Ricinus communis*),—December. Not very common."—(Horsfield, MS.)

The transformations of a species of this genus were also discovered in Ceylon by E. L. Layard, Esq., and are figured among his original drawings.

Genus CYNTHIA, *Fabricius.*

CYNTHIA, *Fabricius, Syst. Gloss.* (*Illiger's Mag.* VI. *p.* 281, 1808).
ANARTIA, *p. Hübner.*
PAPHIA, *p. Horsfield.*

295. *CYNTHIA ARSINOË, Cramer Sp.*

♂ Papilio Arsinoë, *Cramer, Pap. Exot.* II. *t.* 160, *f. A.B.* (1777). *Fabricius, Ent. Syst.* III. I. *p.* 74.

Cynthia Arsinoë, *Fabricius, Syst. Gloss.* (*Illiger's Mag.* VI. *p.* 281, 1808). *E. Doubleday, Diurnal Lep. p.* 213, *t.* 24, *f.* 5.

Vanessa Arsinoë, *Godart, Enc. Méth.* IX. *p.* 297. *Boisduval, Voy. de l'Astrolabe, Ins. p.* 123.

Anartia Arsinoë, *Hübner, Exot. Samml. E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 84.

♀ Papilio Juliana, *Cramer, Pap. Exot.* III. *t.* 280, *f. A.B.* (1782). *Fabricius, Ent. Syst.* III. I. *p.* 108.

♀ Cynthia Deione, *Erichson, Nova Acta Acad. Nat. Cur.* XVI. II. *t.* 40, *f.* 2, 2*a* (1833).

a. b. ♂ ♀. Java. From Dr. Horsfield's Collection.

c. ♂. Darjeeling. From Pearson's Collection.

d. e. ♂ ♀. Darjeeling. Presented by Colonel Buckley.

Genus AMNOSIA, *Boisduval.*

AMNOSIA, *Boisduval. Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 259 (1850).

296. *AMNOSIA DECORA, Boisduval.*

Amnosia decora, *Boisduval, MS. E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 88. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 260, *t.* 51, *f.* 4, ♂.

a. ♂. Java. From Mr. Argent's Collection.
b. ♀. Java. From T. Tatum, Esq.

Genus CYRESTIS, *Boisduval.*

CYRESTIS, *Boisduval, Voy. de l'Astrolabe, p.* 117 (1832).

297. *CYRESTIS LUTEA, Zinken-Sommer Sp.*

Amathusia lutea, ♂, et A. nivea, ♀, *Zinken-Sommer, in Nova Acta Acad. Nat. Cur.* XVI. *p.* . *t.* 14, *f.* 1, 2 (1831).

Marpesia Hylas, *Hübner, Samml. Exot. Schmett. Band* III. *f.* , ♂ ♀, *nec. Clerck.*

Nymphalis Hylas, *Godart, Enc. Méth.* IX. *p.* 361.

Cyrestis Hylas, *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 88.

Cyrestis Recaranus, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 261, *n.* 3 (1850).

a. b. ♂ ♀. Java. From Dr. Horsfield's Collection.
c. d. e. Java. From T. Tatum, Esq.

298. *CYRESTIS THYODAMAS, Boisduval.*

Cyrestis Thyodamas, *Boisduval, in Cuv. Règ. An. edit. Crochard, Ins. t.* 138, *f.* 4 ( ). *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 88. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 261, *n.* 4, *t.* 32, *f.* 3.

Amathusia Ganescha, *Kollar, in Hügel's Kaschmir,* IV. *pt.* II. *p.* 430, *t.* 7, *f.* 3, 4 (1844).

a. b. ♂ ♀. Darjeeling. From Pearson's Collection.
c. d. ♂. N. India. Presented by Colonel Buckley.

299. *CYRESTIS PERIANDER, Fabricius Sp.*

Papilio Periander, *Fabricius, Ent. Syst.* III. I. *p.* 67 (1793). *Donovan, Ins. of India, t.* 37, *f.* 1.

Cyrestis Periander, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 261, *n.* 8.

Nymphalis Periander, *Godart, Enc. Méth.* IX. *p.* 362.

Paphia Periander, *Horsfield, Descr. Cat. Lep. Mus. E.I.C. t.* 5, *f.* 3, 3*a*.

a. b. Java. From Dr. Horsfield's Collection.

300. *CYRESTIS RISA, E. Doubleday.*

Cyrestis Risa, *E. Doubleday, MS. Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 262, *n.* 10, *t.* 32, *f.* 4.

a. b. Assam. From Griffith's Collection.

c. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

301. *CYRESTIS RAHRIA, Westwood* (*Plate* III*a*, *fig.* 2).

Cyrestis Rahria, *Westwood, MS. in Doubleday and Hewitson's Diurnal Lep. p.* 262, *n.* 11 (1850).

? Cyrestis Neduna, *De Haan, MS.*

a. b. c. d. e. ♂ ♀. Java. From Dr. Horsfield's Collection.

Genus PARTHENOS, *Hübner.*

PARTHENOS, *Hübner, Verz. bek. Schmett. p.* 38 (1816).

MINETRA, *Boisduval, Voy. de l'Astrolabe, p.* 126 (1832). *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 265.

302. *PARTHENOS SYLVIA, Cramer Sp.*

Papilio Sylvia, *Cramer, Pap. Exot.* I. *t.* 43, *f. F. G.* (1779).

Parthenos Sylvia, *Hübner, Verz. bek. Schmett. p.* 38.

Nymphalis Sylvia, *Godart, Enc. Méth.* IX. *p.* 381.

Phyllophasis Sylvia, *Blanchard, in Lap. Hist. Nat. An. Art.* III. *p.* 448.

Minetra Sylvia, *Boisduval, Voy. de l'Astrolabe, p.* 127.

E. Doubleday, List Lep. Brit. Mus. pt. I. *p.* 86. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 266.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. Pinang. Presented by Dr. Cantor.

303. *PARTHENOS GAMBRISIUS, Fabricius Sp.*

Papilio Gambrisius, *Fabricius, Ent. Syst.* III. I. *p.* 85 (1793). *Donovan, Ins. of China, t.* 38.

Minetra Gambrisius, *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 86. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 266, *t.* 51, *f.* 2.

a. N. India. Presented by Colonel Sykes.

b. Silhet. Presented by Colonel Buckley.

c. Pinang. Presented by Dr. Cantor.

Captain Mortimer J. Slater, in his MS. Notes, p. 244, remarks:—"I met with this insect (*Pap. Gambrisius*) at Dacca, in the deepest jungle. Its flight is rapid and dodgy, and in consequence is very difficult to capture on the wing."

Genus PROTHOË, *Hübner.*

PROTHOË, *Hübner, Samml. Exot. Schmett.* (1806–27). *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 267.

AUTONEMA, *Boisduval, MSS.*

304. *PROTHOË FRANCKI, Godart Sp.*

Nymphalis Franck, *Godart, Enc. Méth.* IX. *p.* 825 (1819).

Prothoë Franckii, *Hübner, Samml. Exot. Schmett. Band* II. *t.* . *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 88. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 287, *t.* 51, *f.* 3.

Paphia Franck, *Horsfield, Cat. Lep. Mus. E.I.C. t.* 5, *f.* 4, 4*a*.

Autonema Franckii, *Boisduval, MSS.*

a. b. c. ♂. Java. From Dr. Horsfield's Collection.

Genus TERINOS, *Boisduval.*

TERINOS, *Boisduval, Spéc. Gén. Lép.* I. *t.* 9, *f.* 4 (1836). *E. Doubleday, Diurnal Lep. p.* 159.

305. *TERINOS CLARISSA, Boisduval.*

Terinos Clarissa, *Boisduval, Spéc. Gén. Lép.* I. *t.* 9, *f.* 4 (1836). *E. Doubleday, Diurnal Lep. p.* 160, *t.* 21, *f.* 3.

a. ♀. Java. From Mr. Argent's Collection.

b. ♂. Borneo. Presented by Edwin Shepherd, Esq., 1857.

Genus CIRROCHROA, *E. Doubleday.*

CIRROCHROA, *E. Doubleday, Diurnal Lep. p.* 157 (1848).

306. *CIRROCHROA THAIS, Fabricius Sp.*

Papilio Thais, *Fabricius, Ent. Syst.* III. I. *p.* 149 (1793).

Cirrochroa Thais, *E. Doubleday, Diurnal Lep. p.* 158, *n.* 2.

Argynnis Thais, *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 66.

Argynnis Thea, *Godart, Enc. Méth.* IX. *p.* 260 (1819).

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

307. *CIRROCHROA AORIS, E. Doubleday.*

♂ Cirrochroa Aoris, *E. Doubleday, MS. Westwood and Hewitson's Diurnal Lep. p.* 158, *t.* 21, *f.* 1 (1847).

a. b. c. ♂. Darjeeling. From Pearson's Collection.

e. f. g. ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

308. *CIRROCHROA CLAGIA, Godart Sp.*

Argynnis Clagia, *Godart, Enc. Méth.* IX. *Suppl. p.* 816 (1823). *Boisduval, Spéc. Gén. Lép.* I. *t.* 10, *f.* 6. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 66.

Cirrochroa Clagia, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 158, *n.* 3.

a. b. c. d. e. ♂ ♀. Java. From Dr. Horsfield's Collection.

309. *CIRROCHROA BAJADETA, Moore* (*Plate* III*a*, *fig.* 3).

Cirrochroa Bajadeta, n. sp.—Male: UPPER-SIDE ferruginous, with a broadish blackish border from the anterior angle along the exterior margin of both wings, and having narrow blackish lunular marks disposed along the inner margin of the border, also three black spots on each posterior wing from the anal angle. UNDER-SIDE paler, with a tapering fascia crossing both wings, this being white on the posterior wing; also two ranges of lunular markings along the exterior margin, and six spots disposed across the posterior wing, near the white fascia.

The female differs above, in being of a brighter colour, and in having the border blacker, the anterior wings having a narrow blackish disco-cellular mark; the lunular marks of the posterior wings being darker and more suffused, and having six spots disposed from anal to anterior angle. Beneath, the colours and markings are stronger.

a. b. ♂ ♀. Java. From Dr. Horsfield's Collection.

310. *CIRROCHROA RAVANA, Moore.*

Cirrochroa Ravana, n. sp.—Female: UPPER-SIDE, with base of both wings, to irregular transverse black line from middle of costal margin to a little above the anal angle, dull ferruginous, the rest being paler and brighter, and almost yellow on the fore-wing; exterior margin of *fore-wing* broadly from the apex to posterior angle, and narrowly along exterior margin of *hind-wing* black, the former with an indistinct pale spot on the apex, the latter with marginal and sub-marginal lunulated line and some spots across the disc black. UNDER-SIDE much paler, faintly glossed with pearly-white; a tapering pearly-white band from middle of costal margin to near anal angle, a marginal and a sub-marginal lunulated line, and a row of black spots encircled with ferruginous across disc of hind-wing; markings within discoidal cell ferruginous; two small white spots at the apex of fore-wing.

a. ♀. Borneo. Presented by Edwin Shepherd, Esq., 1857.

Genus MESSARAS, *E. Doubleday.*

MESSARAS, *E. Doubleday, MS. Westwood and Hewitson's Diurnal Lep. p.* 163 (1848).

311. *MESSARAS ERYMANTHIS, Drury Sp.*

Papilio Erymanthis, *Drury, Ins.* I. *t.* 15, *f.* 3, 4 (1770).

Cramer, Pap. Exot. III. *t.* 238, *f. F. G. Fabricius, Ent. Syst.* III. I. *p.* 139.

Messaras Erymanthis, *E. Doubleday, MS. Westwood and Hewitson's Diurnal Lep. p.* 164.

Argynnis Erymanthis, *Godart, Enc. Méth.* IX. *p.* 257. *Boisduval, Voy. de l'Astrolabe, Ins. p.* 115. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 67.

a. b. c. d. Java. From Dr. Horsfield's Collection.

e. ♀. N. India. Presented by Colonel Sykes.

f. ♂. Canara. Presented by S. N. Ward, Esq.

g. ♀. Pinang. Presented by Dr. Cantor.

h. Borneo. Presented by Edwin Shepherd, Esq., 1857.

"Tolerably plentiful at Dacca, 1844. Flies quietly, and is easily captured. I used to find one or two almost invariably near a deep pool of stagnant water overhung with bamboo jungle, where *Athyma Leucothoë* was always to be found, together with two of the species resembling it in flight and general colour."—(Captain Mortimer J. Slater's MS. Notes, p. 148.)

312. *MESSARAS ALCIPPE, Cramer Sp.*

Papilio Alcippe, *Cramer, Pap. Exot.* IV. *t.* 389, *f. G. H.* (1782).

Messaras Alcippe, *E. Doubleday, MS. Westwood and Hewitson's Diurnal Lep. p.* 165.

Argynnis Alciope, *Godart, Enc. Méth.* IX. *p.* 259. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 67.

a. ♀. Silhet. Presented by the Trustees of the British Museum.

b. ♂. ? Borneo. Presented by Edwin Shepherd, Esq., 1857.

Genus ATELLA, *E. Doubleday.*

Atella, *E. Doubleday, Diurnal Lep. p.* 165 (1848).

Phalanta, *Horsfield, Desc. Cat. Lep. Mus. E.I.C. t.* 7, *f.* 5 (1829).

313. *ATELLA PHALANTA, Drury Sp.*

Papilio Phalanta, *Drury, Ins.* I. *t.* 21, *f.* 1, 2 (1770). *Fabricius, Ent. Syst.* III. I. *p.* 149.

Atella Phalanta, *E. Doubleday, MS. Westwood and Hewitson's Diurnal Lep. p.* 167.

Argynnis Phalanta, *Godart, Enc. Méth.* IX. *p.* 259. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 67.

Papilio Columbina, *Cramer, Pap. Exot.* III. *t.* 238, *f. A.B.* (1780); *t.* 337, *f. D.E. var.*

Argyronome Columbina, *Hübner, Verz. bek. Schmett. p.* 32.

Phalanta Columbina, *Horsfield, Desc. Cat. Lep. Mus. E.I.C. t.* 7, *f.* 5.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. f. g. ♂ ♀. N. India. From the Asiatic Society of Bengal.

h. ♀. N. India. Presented by Colonel Buckley.

The larva and pupa of *Atella Phalanta* are figured on Plate V., fig. 7, 7*a*, from Java, and "feeds on a species of *Ixora*,—November. Scarce."—(Horsfield, MS.)

314. *ATELLA EGISTA, Cramer Sp.*

Papilio Egista, *Cramer, Pap. Exot.* III. *t.* 281, *f. C.D.* (1780).

Atella Egista, *E. Doubleday, MS. Westwood and Hewitson's Diurnal Lep. p.* 167, *n.* 6.

Issoria Egista, *Hübner, Verz. bek. Schmett. p.* 31.

Argynnis Egista, *Godart, Enc. Méth.* IX. *p.* 261. *Boisduval, Voy. de l'Astrolabe, Ins. p.* 113. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 66.

Terinos Sinha, *Kollar, in Hügel's Kaschmir*, IV. *pt.* II. *p.* 438 (1844).

a. b. ♂ ♀. Java. Presented by Dr. Horsfield.

c. d. e. ♂ ♀. N. India. Presented by Colonel Buckley.

Genus LAOGONA, *Boisduval.*

Laogona, *Boisduval, Spéc. Gén. Lép.* I. *t.* 10, *f.* 3 (1836).

Symbrenthia, *Hübner, Verz. bek. Schmett.* (1816).

Hypanartia, *Hübner-Geyer, Samml. Exot. Schmett.* (1841).

315. *LAOGONA HYPPOCLA, Cramer Sp.*

Papilio Hyppocla, *Cramer, Pap. Exot.* III. *t.* 220, *f. C.D.* (1780).

Laogona Hyppocla, *Boisduval. E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 83. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 191, *n.* 1.

Hypanartia Hyppocla, *Hübner and Geyer, Samml. Exot. Schmett.* III. (1841).

Vanessa Hyppocla, *Godart, Enc. Méth.* IX. *p.* 298.

♀ Papilio Lucina, *Cramer, Pap. Exot.* IV. *t.* 330, *f. E.F.* (1782).

a. b. c. d. e. f. ♂ ♀. Java. From Dr. Horsfield's Collection.

g. Darjeeling. From Pearson's Collection.

h. Bootan. From Pemberton's Collection.

i. j. N. India. Presented by Colonel Buckley.

316. *LAOGONA HYPSELIS, Godart Sp.*

Vanessa Hypselis, *Godart, Enc. Méth.* IX. *Suppl. p.* 818 (1823).

Laogona Hypselis, *Boisduval, Spéc. Gén. Lép.* I. *t.* 10, *f.* 3. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 83. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 191, *n.* 2, *t.* 25, *f.* 1.

a. b. c. ♂. N. India. Presented by Colonel Buckley.

d. Var. From T. Tatum, Esq.

Genus CETHOSIA, *Fabricius.*

Cethosia, *Fabricius, Syst. Gloss.* (*Illiger's Mag.* VI. *p.* 280, 1807.) *Godart. Latreille. Doubleday.*

Alazonia, *Hübner, Verz. bek. Schmett. p.* 46 (1816).

317. *CETHOSIA BIBLIS, Drury Sp.*

Papilio Biblis, *Drury, Ins.* I. *t.* 4, *f.* 2 (1780). *Cramer, Pap. Exot.* II. *t.* 175, *f. A.B.*

Cethosia Biblis, *Westwood, in Drury's Ins. 2nd edit.* I. *p.* 9. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 65; *Diurnal Lep. p.* 151, *n.* 1.

Alazonia Symbiblis (*part*), *Hübner, Verz. bek. Schmett. p.* 46 (1816).

Cethosia Biblina, *Godart, Enc. Méth.* IX. *p.* 248.

Papilio Penthesilea, *apud Fabricius, Spec. Ins.* II. *p.* 88.

a. b. ♂. N. India. Presented by Lieut. Hugo James.

c. d. ♂ ♀. Darjeeling. From Pearson's Collection.

e. f. ♂. Darjeeling. From Messrs. Schlagintweit's Collection.

318. *CETHOSIA PENTHESILEA, Cramer Sp.*

Papilio Penthesilea, *Cramer, Pap. Exot.* II. *t.* 145, *f. B. C.* (1776).

Cethosia Penthesilea, *Godart, Enc. Méth.* IX. *p.* 248. *Lucas, Lep. Exot. t.* 55, *f.* 1. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 65; *Diurnal Lep. p.* 151, *n.* 2.

a. b. c. d. e. ♂ ♀. Java. From Dr. Horsfield's Collection.

319. *CETHOSIA ÆOLE, De Haan MS.*

Cethosia Æole, De Haan.—UPPER-SIDE: male, *fore-wing* having the posterior basal third to near posterior angle rufous, the rest black, also some transverse markings in discoidal cell: the basal half of the wing with a bluish-purple tinge, being most vivid at the unison of the two colours; also a white transverse patch near middle of wing: *hind-wing* with a broad black exterior border, the rest rufous, with bluish-purple tinge; three small black spots disposed linearly from near anal angle; also an indistinct spot between discoidal and median veinlets; wings deeply scalloped, and with white zigzag marginal markings. Female, with the upper-side of the *fore-wing* nearly all black, excepting a narrow yellow space along the middle of posterior margin: *hind-wing* with a broader marginal border than in male, the abdominal margin yellowish, the rest rufous; discal spot larger, and tooth-shaped; white patch also larger. Under-side of both sexes nearly as in *Ceth. Penthesilea*, but the white central irregular fascia of the hind-wing is very broad in *Ceth. Æole*.

a. b. ♂ ♀. Sumatra. From Dr. Horsfield's Collection.

c. ♂. Borneo. Presented by Edwin Shepherd, Esq., 1857.

320. *CETHOSIA CYANE, Fabricius Sp.*

Papilio Cyane, *Fabricius, Syst. Ent. p.* 503 (1775); *Ent. Syst.* III. I. *p.* 115. *Drury, Ins.* I. *t.* 4, *f.* 1. *Cramer, Pap. Exot.* IV. *t.* 295, *f. C.D.*

Cethosia Cyane, *Godart, Enc. Méth.* IX. *p.* 247. *Kollar, in Hügel's Kaschmir,* IV. *pt.* II. *p.* 443. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 65; *Diurnal Lep. p.* 152, *n.* 6.

Alazonia Symbiblis (*part*), *Hübner, Verz. bek. Schmett. p.* 46.

a. b. ♂ ♀. Canara. Presented by S. N. Ward, Esq.

d. e. f. g. ♂ ♀. Darjeeling. From Messrs. Schlagintweit's Collection.

The larva and pupa of *Cethosia Cyane* are figured on Plate V. fig. 8, 8*a*, from Canara, Southern India, and were copied from the original drawings made by S. N. Ward, Esq.

Captain Mortimer J. Slater also observed the transformations of "a species of *Cethosia*, from a larva feeding on the Passion-flower. The larva was yellow, black, and crimson in alternate bars, and covered with stinging spines. Pupa hung by tail and band, and in leaf-like appendages resembled that of *Papilio Pammon*."—(MS. Notes, p. 302.)

Genus ARGYNNIS, *Fabricius.*

Argynnis, *Fabricius.* (*Illiger's Mag.* VI. 1808.) *Ochsenheimer, Schmett. von Eur.* IV. *p.* 16 (1816). *Doubleday.*

Argynnis, Brenthis, Issoria, Acidalia, Argyronome, *Hübner, Verz. bek. Schmett.* (1816).

321. *ARGYNNIS NIPHE, Linnæus Sp.*

♀ Papilio Niphe, *Linnæus, Syst. Nat.* II. *p.* 785 (1767). *Cramer, Pap. Exot.* I. *t.* 14, *f. B.C.D.E. Fabricius, Ent. Syst.* III. I. *p.* 142.

Argynnis Niphe, *Godart, Enc. Méth.* IX. *pp.* 261, 806. *Kollar, in Hügel's Kaschmir,* IV. *pt.* II. *p.* 440, *t.* 13, *f.* 12. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 67; *Diurnal Lep. p.* 174, *n.* 1.

Acidalia Niphe, *Hübner, Verz. bek. Schmett. p.* 31.

♀ Papilio Hyperbius, *Linnæus, Amœn. Acad.* VI. *p.* 408.

♂ Papilio Argyrius, *Sparmann, Amœn. Acad.* VII. *p.* 502 (1768).

♂ Papilio Argynnis, *Drury, Ins.* I. *t.* 6, *f.* 2 (1770).

Argynnis Tephnia, *Godart, Enc. Méth.* IX. *p.* 262 (1819).

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. ♀. Pinang. Presented by Dr. Cantor.

f. ♀. Darjeeling. From Pearson's Collection.

g. h. i. ♂ ♀. N. India. Presented by Colonel Buckley.

322. *ARGYNNIS ARUNA, Moore* (*Plate* IIIa, *fig.* 4).

A. Aruna, n. sp.—UPPER-SIDE, wings fulvous; *anterior wings* with a broad black patch in discoidal cell and between the nervules, and duller markings on the exterior margin: *posterior wings* having the whole space between the nervules posteriorly occupied with black, and leaving only small lunular markings on the exterior margin, the latter becoming bluish at the anal angle. UNDER-SIDE with the anterior wings broadly suffused with black; posterior wings with the basal half silvery, and with black markings across the wing from outer to anal angle. Shape of wings as in *Arg. Niphe;* expanse $3\frac{1}{8}$ in.

a. ♂. N. India. Presented by Colonel Buckley.

323. *ARGYNNIS ISSÆA, G. R. Gray.*

Argynnis Issæa, *G. R. Gray, Lep. Ins. of Nepal, p.* 11 (1846). *E. Doubleday, Diurnal Lep. p.* 174, *n.* 3.

Argynnis Lathonia, *apud Kollar, in Hügel's Kaschmir,* IV. *pt.* II. *p.* 440.

a. b. ♂ ♀. Bootan. From Pemberton's Collection.

c. d. ♂. N. India. Presented by Colonel Hearsey.

324. *ARGYNNIS KAMALA, Moore.*

Argynnis Kamala, n. sp.—UPPER-SIDE golden-yellow; fore-wings somewhat dusky at the base; hind-wings tinged in parts with yellowish-green: *fore-wing* with all the veins and veinlets deeply defined with black; the black markings disposed exactly as in *Argyn. Paphia,* but larger and duller, and in *A. Kamala* the submarginal row of spots are less defined and continuous, rather forming a stripe than a linear series of spots; the marginal row is connected between the

veinlets by a narrow line: *hind-wing* with an irregular zigzag inner black band, then a row of five round black spots, and a submarginal row of seven linear-shaped spots (the anterior and third being smallest), also a marginal black line; the angles and end of veinlets also black. UNDER-SIDE, *fore-wing* yellow, the markings within discoidal cell and about the disc as above, but submarginal row paler; none on margin; near the apex a green patch, containing three silvery-white spots: *hind-wing* beautiful metallic green, with a broad submarginal and inner band, and a series of marks about the basal half silvery-white, all margined more or less on one side with black; between the submarginal and inner band some small spaces of yellow, and an indistinct row of reddish spots. Wings shaped as in *Argyn. Paphia;* expanse 2⅛ in.

a. b. c. ♂. N. India. Presented by Colonel Buckley.

325. *ARGYNNIS RUDRA, Moore.*

Argynnis Rudra, n. sp.—UPPER-SIDE bright fulvous, duller and slightly tinged with green at the base: *fore-wing* with the markings disposed as in *Arg. Childreni*, but somewhat smaller, but with a marginal row of small spots: *hind-wing* with the spots also disposed as in *Arg. Childreni*, but with a marginal row of spots. UNDER-SIDE, *fore-wing* fulvous-yellow, greenish at the apex; the spot on the exterior half indistinct: *hind-wing* light green, palest on abdominal margin; a ferruginous irregular band crossing the basal half; an irregular more or less white line crossing from anterior margin near the angle to abdominal angle; also some white disposed from anal angle and inclosing the green colour, and thus forming a submarginal row; along the outside of the white line, some ferruginous spots, centred with white. Wings shaped as in *Arg. Laodice*, which appears to be a near ally; expanse of wings 3 in.

a. ♂. N. India. Donor unknown.

326. *ARGYNNIS CHILDRENI, G. R. Gray.*

Argynnis Childreni, *G. R. Gray, Gray's Zool. Misc. p.* 33 (1832); *Lep. Ins. of Nepal, p.* 11, *t.* 11. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 68; *Diurnal Lep. p.* 174, *n.* 6.

Argynnis Sakontala, *Kollar, in Hügel's Kaschmir*, IV. *pt.* II. *p.* 439, *t.* XII. (1844).

a. b. ♀. N. India. Presented by Colonel Buckley.

Genus DIADEMA, *Boisduval.*

DIADEMA, *Boisduval, Voy. de l'Astrolabe, Ins. p.* 135 (1832). *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 279.

HYPOLIMNAS, ESOPTRIA, *et* PANOPEA, *p. Hübner, Verz. bek. Schmett.* (1816).

APATURA (*part*), *Fabricius. Horsfield.*

NYMPHALIS (*part*), *Godart.*

327. *DIADEMA BOLINA, Linnæus Sp.*

♂ Papilio Bolina, *Linnæus, Syst. Nat.* II. *p.* 781 (1767). *Clerck, Icon. t.* 21. *Drury, Ins.* I. *t.* 14, *f.* 1, 2. *Cramer, Pap. Exot.* I. *t.* 65, *f. E.F. Fabricius, Ent. Syst.* III. *pt.* I. *p.* 126. *Herbst, Pap. t.* 244, *f.* 3, 4.

Diadema Bolina, *Boisduval, Faune Ent. de Madag. p.* 39. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 98. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 280, *n.* 1.

Nymphalis Bolina, *Godart, Enc. Méth.* IX. *p.* 396.

Apatura Bolina, *Zinken-Sommer, Nova Acta Acad. Nat. Cur.* XV. *p.* 194.

♀ Papilio Misippus, *Linnæus, Syst. Nat.* II. *p.* 767.

Danaïs Misippus, *Godart, Enc. Méth.* IX. *p.* 394.

♀ Papilio Diocippus, *Cramer, Pap. Exot.* I. *t.* 28, *f. B.C.* (1779). *Herbst, Pap. t.* 155, *f.* 3, 4. *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 51.

Var. ♀ Papilio Inaria, *Cramer, Pap. Exot.* III. *t.* 214, *f. A.B. Herbst, Pap. t.* 157, *f.* 5, 6.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. f. g. h. ♂ ♀. N. India. Presented by Colonel Buckley.

i. (Hermaphrodite). Canara. Presented by S. N. Ward, Esq.

j. ♂. Borneo. Presented by H. Low, Esq.

k. ♀ var. (*P. Inaria,* Cram.) Madras. From Captain J. M. Jones's Collection.

328. *DIADEMA AUGE, Cramer Sp.*

♂ Papilio Auge, *Cramer, Pap. Exot.* II. *t.* 190, *f. A.B.* (1779).

Diadema Auge, *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 98.

♂ Papilio Lasinassa, *Cramer, Pap. Exot.* III. *t.* 205, *f. A.B.* (1782). *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 127. *Lucas, Hist. Nat. Lep. Exot. t.* 70, *f.* 2.

Nymphalis Lasinassa, *Godart, Enc. Méth.* IX. *p.* 395.

Apatura Lasinassa, *Horsfield, Cat. Lep. Mus. E.I.C. t.* 8.

Var. ♂ Papilio Iphigenia, *Cramer, Pap. Exot.* I. *t.* 67, *f. D.E.* (1779).

♂ Papilio Alcithoë, *Cramer, Pap. Exot.* I. *t.* 80, *f. A.B.* (1779). *Hübner, Samml. Exot. Schmett. Bd.* I. *t.* —.

Var. ♀ Papilio Perimele, *Cramer, Pap.* I. *t.* 65, *f. C.D.*; id. *t.* 67, *f. B.* (1779).

Var. ♀ Papilio Melita, *Cramer, Pap.* I. *t.* 28, *f. D.E.* (1779).

Var. ♀ Papilio Alcmene, *Cramer, Pap.* I. *t.* 67, *f. A.* (1779).

Var. ♀ Papilio Antigone, *Cramer, Pap.* I. *t.* 67, *f. C.* (1779).

Var. ♀ Papilio Proserpina, *Cramer, Pap.* III. *t.* 218, *f. C.D.* (1782).

Var. ♀ Papilio Manilia, *Cramer, Pap. Exot. t.* 255, *f. A.B.* (1782).

Var. ♀ Papilio Porphyria, *Cramer, Pap. t.* 255, *f. E.F.*

Var. ♀ Papilio Velleda, *Cramer, Pap. t.* 349, *f. C.D.* (1782).

Var. ♀ Papilio Eriphile, *Cramer, Pap. t.* 376, *f. A.B.* (1782).

♂ Papilio Liria, *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 126.

Nymphalis Liria, *Godart, Enc. Méth.* IX. *p.* 395.

♀ Papilio Nerina, *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 133. *Donovan, Ins. of New Holl. t.* 27, *f.* 1.

Var. ♀ Papilio Jacintha, *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 60. *Jones, Icon.* IV. *t.* 51. *Donovan, Ins. of China, t.* 37, *f.* 1. *Drury, Ill. App. vol.* II. *t.* 21, *f.* 1, 2.

♀ Papilio Avia, *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 111.

a. b. c. d. e. f. g. h. ♂ ♀. Java. From Dr. Horsfield's Collection.

i. j. ♂ ♀. N. India. Presented by Colonel Sykes.

k. l. m. n. o. ♂ ♀. N. India. Presented by Colonel Buckley.

p. ♂. Borneo. Presented by H. Low, Esq.

The larva and pupa of *Diadema Auge* are figured on Plate V. fig. 9, 9*a*, taken from the original drawing made by E. L. Layard, Esq., in Ceylon.

329. *DIADEMA ANTILOPE, Cramer.*

♀ Papilio Antilope, *Cramer, Pap. Exot.* II. *t.* 183, *f. E.F.*
Diadema Antilope, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 281, *n.* 6.
Nymphalis Antilope, *Godart, Enc. Méth.* IX. *p.* 397.

a. ♂. Java. Presented by the Trustees of the British Museum.

Genus PENTHEMA, *E. Doubleday.*

Penthema, *E. Doubleday, MS.; Diurnal Lep. t.* 39 (1847).
Diadema (Penthema), *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 281 (1850).

330. *PENTHEMA LISARDA, E. Doubleday.*

Diadema Lisarda, *E. Doubleday, Ann. Nat. Hist.* XVI. *p.* 233 (1845).
Penthema Lisarda, *E. Doubleday, Diurnal Lep. t.* 39, *f.* 3.
Diadema (Penthema) Lisarda, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 281, *n.* 9.
Nymphalis Euphrone, *Westwood, Cabinet Orient. Entomol. p.* 55, *t.* 27, *f.* 1 (1847).

a. b. ♂ ♀. Darjeeling. From Pearson's Collection.
c. d. ♂ ♀. Darjeeling. Reserved from Indian Collection, Exposition Universelle at Paris, 1855.
e. f. ♂ ♀. Darjeeling. From Messrs. Schlagintweit's Collection.

Genus HESTINA, *Westwood.*

Diadema (Hestina), *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 281 (1850).

331. *HESTINA ASSIMILIS, Linnæus Sp.*

Papilio assimilis, *Linnæus, Syst. Nat.* II. *p.* 782 (1767). *Cramer, Pap. Exot.* II. *t.* 154, *f. A. Esper, Pap. Exot. t.* 57, *f.* 1. *Fabricius, Ent. Syst.* III. *pt.* I.

p. 39. *Clerck, Icon. t.* 16, *f.* 1, 2. *Drury, Ill.* I. *t.* 17, *f.* 3, 4.

Diadema (Hestina) assimilis, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 281, *n.* 18.

Hestia assimilis, *Hübner, Verz. bek. Schmett. p.* 15.

Nymphalis assimilis, *Godart, Enc. Méth.* IX. *p.* 393.

Diadema assimilis, *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 97.

a, *b*. ♂. N. India. Donor unknown.

c. ♀. N. India. Presented by the Trustees of the British Museum.

332. *HESTINA CONSIMILIS, Westwood.*

♀ Diadema (Hestina) consimilis, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 281, *n.* 20 (1850).

a. *b*. ♀ (type). N. India. Presented by Colonel Buckley.

333. *HESTINA ISA, Moore.*

Hestina Isa, n. sp.—Female: UPPER-SIDE, *fore-wing* dusky-brown, darker and somewhat bluish on apical half; a broad oblique short white patch from middle of costal margin, intersected by three of the veinlets; a whitish mark in middle of discoidal cell, and some narrow longitudinal white marks at the apex; also an indistinct marginal row of small whitish spots: *hind-wing* dusky-brown, with the middle of the wing to abdominal margin white, intersected by the veins; also a marginal and submarginal row of small bluish-white spots from anal angle. UNDER-SIDE paler brown, and marked as above. Wings shaped as in *Hest. consimilis;* expanse 3½ inches.

a. ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

334. *HESTINA PERSIMILIS, Westwood.*

Diadema (Hestina) persimilis, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 281, *n.* 19 (1850).

a. ♂ (type). N. India. Presented by Colonel Buckley.

b. *c*. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

335. *HESTINA NAMA, Boisduval Sp.*

Diadema Nama, *Boisduval, MS. E. Doubleday, Ann. Nat. Hist.* XVI. *p.* 232 (1845); id. *Diurnal Lep. t.* 39, *f.* 2; *List Lep. Brit. Mus. pt.* I. *p.* 97.

Diadema (Hestina) Nama, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 281, *n.* 21.

a. b. c. d. ♂ ♀. N. India. Presented by Lieutenant Hugo James.

e. f. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

Genus Nov. CALINAGA, *Moore.*

Head small, with a somewhat long frontal tuft.

Thorax large, hairy; neck covered with long velvety hairs.

Abdomen long, slender.

Labial palpi porrected, ascending, elevated to the level of the middle of the eyes, slender, covered with fine hairs, those in front very long; apical joint ovate-cylindric.

Antennæ (*broken off*).

Fore-legs short, pectoral; femur clothed with fine long hairs; tibia and tarsus hairy; tarsus two-thirds the length of tibia, armed with a single claw.

Hind-legs rather stout; femur clothed with hairs; tibia the same length as the femur, and partially covered with short spiny hairs, with two short tibial spurs; tarsus with several rows of shorter spines; of five joints, the first as long as the other four together; second, third, and fourth short; fifth rather long, half the length of the first; claws sharp.

Fore-wings elongate-trigonate: anterior margin slightly arched, apical angle rounded; exterior margin about half the length of the anterior; posterior margin slightly convex, two-thirds the length of anterior. Costal vein strong, and extending to two-thirds of the anterior margin: subcostal vein separated from the costal, its first branch arising at two-fifths from the base; second branch at a little distance off, and at equal distance from the first as from the extremity of discoidal cell, and both running parallel with the costal: third and fourth branches arising at equal distances from each other and from the extremity of the discoidal cell and the tip of the wing. Upper disco-cellular vein very short, almost obsolete,

arising from the subcostal at about the middle of the wing: middle disco-cellular vein four times the length of first, extending downward, and slightly convex; lower disco-cellular vein long, curving obliquely downward and outward, and uniting with the third branch of the median vein at its origin, closing the discoidal cell.

Hind-wings elongate-trigonate: anterior margin convex at its base, then quite straight; outer margin rounded; abdominal margin nearly straight, slightly rounded: precostal vein rather indistinct, curved inward. Costal vein arched near the base, then straight, extending to costal margin on three-fourths of the wing: subcostal vein straight to two-fifths of the wing, where it branches slightly upward, and extends to the apex. Upper disco-cellular vein short, straight, arising at the subcostal branch; middle disco-cellular vein slightly oblique, concave; lower disco-cellular vein oblique, convex, uniting with the third branch of median vein a little beyond its origin, closing the discoidal cell.

336. *CALINAGA BUDDHA, Moore* (*Plate* IIIa, *f.* 5).

Calinaga Buddha, n. sp.—UPPER-SIDE smoky-brown: *fore-wing* with a submarginal row of rounded creamy-white spots; also a parallel row of irregular-shaped longitudinal whitish streaks from costal margin, widening to posterior margin; space within discoidal cell whitish, divided transversely in the middle by a blackish bar: *hind-wing* with a submarginal row of white oval spots; another row from anterior margin narrowing towards anal angle; interior of discoidal cell and abdominal margin broadly whitish, the latter tinged at the anal angle with ochreous; thorax ferruginous; abdomen black. UNDER-SIDE: *fore-wings* as in the upper-side, but the markings less defined; *hind-wings* dull ochreous, paler at the base and on abdominal margin; whitish markings rather indistinct; sides of thorax ferruginous. Expanse of wings 3½ inches.

n. ♂. N. India. Presented by Colonel Buckley.

Genus NEPTIS, *Fabricius*.

NEPTIS, *Fabricius, Syst. Gloss.* (*Illiger's Mag.* VI. *p.* 282, 1808.) *Horsfield. Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 270.

ACCA, *p. Hübner, Verz. bek. Schmett.* (1816).

LIMENITIS, *p. Boisduval, Ind. Méth. Eur. Lép. p.* 16 (1840). *E. Doubleday, List Lep. Brit. Mus.*

337. *NEPTIS HORDONIA, Stoll Sp.*

Papilio Hordonia, *Stoll, Suppl. Cramer Pap. Exot. t.* 33, *f.* 4, 4*D* (1791).

Neptis Hordonia, *Westwood, in Doubledag and Hewitson's Diurnal Lep. p.* 271, *n.* 3.

Nymphalis Hordonia, *Godart, Enc. Méth.* IX. *p.* 429.

Limenitis Hordonia, *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 93.

a. b. ♂ ♀. Java. From Dr. Horsfield's Collection.

c. d. ♂ ♀. N. India. Presented by Colonel Sykes.

e. f. ♂ ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

Remark.—Neptis Hordonia may be known by the mottled markings of the under-side.

338. *NEPTIS HELIODORE, Fabricius Sp.*

Papilio Heliodore, *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 130 (1793). *Jones, Icon.* IV. *t.* 76, *f.* 2, *nec. Cramer.*

Neptis Heliodore, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 271, *n.* 4.

Nymphalis Heliodore, *Godart, Enc. Méth.* IX. *p.* 429.

Limenitis Heliodore, *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 93.

a. b. ♂ ♀. Java. From Dr. Horsfield's Collection.

Remark.—Neptis Heliodore may be distinguished from the preceding by the well-defined markings of the under-side.

339. *NEPTIS MIAH, Moore* (*Plate* IV*a*, *fig.* 1).

Neptis Miah, n. sp.—UPPER-SIDE brown-black: *fore-wing* with a longitudinal streak from base of wing, an oblique transverse short apical fascia, and which nearly meets a reversely-oblique fascia on posterior margin, rufous: *hind-wing* with a nearly straight broad inner band, and a narrow submarginal band, rufous. UNDER-SIDE dark ferruginous: *fore-wing* with the longitudinal and oblique marks pinky-white; two narrow submarginal lines purple: *hind-wing* with inner band pinky-white; two submarginal and a less distinct middle

line purple; costal margin at the base whitish. Expanse of wings 2⅞ inches.

a. b. ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

Remark.—Allied to the two preceding species, but may easily be distinguished by the colour and markings of the under-side.

340. *NEPTIS VIKASI, Horsfield.*

Neptis Vikasi, *Horsfield, Cat. Lep. Mus. E.I.C. t.* 5, *f.* 2, 2*a* (1829).

Athyma Vikasi, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 274, *n.* 10.

Limenitis Vikasi, *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 94.

a. b. c. d. Java (type). From Dr. Horsfield's Collection.

e. f. N. India. Presented by Colonel Buckley.

g. h. Darjeeling. Reserved from Indian Collection, Exposition Universelle at Paris, 1855.

341. *NEPTIS MANASA, Moore* (*Plate* IV*a, fig.* 2).

Neptis Manasa, n. sp.—UPPER-SIDE dull dusky-brown: markings white, tinged with very pale ferruginous: *fore-wing* with the discoidal streak long, and continued in a curve to near the posterior angle; an apical oblique streak; two small spots on costal margin, and one below the margin; a spot on middle of posterior margin; a marginal row of small indistinct spots: *hind-wing* with broad inner and narrower outer band, both extending across the abdominal margin; an indistinct marginal line and line between the two bands; narrow ciliæ white. UNDER-SIDE pale ochreous, with indistinctly-defined white markings; the discoidal streak is continued uninterrupted to the middle of posterior margin, the space within being blackish; on the hind-wing are some small white markings between the inner band and costal vein. Expanse 2½ inches.

a. ♂. N. India. Presented by Colonel Buckley.

Remark.—*Neptis Manasa* may be distinguished above by the discoidal streak being nearly confluent with the spot on the middle of posterior margin, it being quite confluent on the under-side.

342. *NEPTIS ANANTA, Moore* (*Plate* IV*a*, *fig.* 3).

Neptis Ananta, n. sp.—UPPER-SIDE brownish-black; markings ferruginous: *fore-wing* with discoidal streak straight; a curved twice-interrupted band from anterior margin near apex to middle of posterior margin; a pale marginal line: *hind-wing* with rather broad inner and narrow outer band, both extending across the abdominal margin; also a pale marginal line and line between the bands. UNDER-SIDE very deep ferruginous: *fore-wing* with discoidal streak, spots near apex, and from posterior margin, ferruginous-white; posterior margin broadly patched with black; a marginal and submarginal bluish-ashy line: *hind-wing* with inner band white, outer band grey and indistinct; a marginal line and zigzag line between the two bands bluish-ashy. Expanse $2\frac{1}{2}$ inches.

a. ♀. N. India. Presented by Colonel Buckley.

Remark.—*Neptis Ananta* may be known from *N. Manasa* by its ferruginous markings and straight discoidal streak.

343. *NEPTIS RADHA, Moore* (*Plate* IV*a*, *fig.* 4).

Neptis Radha, n. sp.—UPPER-SIDE brownish-black: markings ferruginous: *fore-wing* with a long discoidal streak, narrow at base, and extending to a short distance between the third and second median veinlets; two small spots on costal margin, and two larger oblique spots near the apex; a large spot on disc, and an elongate spot to middle of posterior margin; marginal line pale: *hind-wing* with rather broad inner and narrower outer band, both extending across the abdominal margin; a marginal line and line between the two bands pale brown. UNDER-SIDE ferruginous-brown; markings as above, but indistinct, owing to the surface being mottled over with ashy-blue. Expanse $2\frac{7}{8}$ inches.

a. ♀. Bootan. From Pemberton's Collection.

b. ♂. Darjeeling. From Messrs. Schlagintweit's Collection.

344. *NEPTIS COLUMELLA, Cramer Sp.*

Papilio Columella, *Cramer, Pap. Exot.* IV. *t.* 296, *f. A.B.* (1782).

Neptis Columella, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 272, *n.* 7.

Limenitis Columella, *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 95.

Acca Columena, *Hübner, Verz. bek. Schmett. p.* 44.

a. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

b. c. ♀. N. India. Presented by Colonel Sykes.

Inhabits also China, Ceylon; and specimens from the island of Lombok which I have examined, are also identical.

345. *NEPTIS JUMBAH, Moore* (*Plate* IV*a*, *fig.* 5).

Neptis Jumbah, n. sp.—UPPER-SIDE smoky-black: *fore-wing* with a narrow longitudinal discoidal streak, and a parallel triangular spot, white; a transverse curved row of interrupted white spots from apical third of costal margin to near middle of posterior margin, composed of two very narrow longitudinal spots on the costal margin, beneath which are two large spots, then a very small streak, then two large spots, and lastly two narrower spots terminating on posterior margin; between this band of spots and exterior margin are two rows of more or less-defined lunular-shaped white spots, these being bounded exteriorly by a shade of deep black: *hind-wing* with a broad white band from costal to abdominal margin, being intersected by the veins; near outer margin a row of ill-defined white lunated marks, bounded exteriorly by deep black, then a submarginal row of black lines; between the white band and row of white lunated marks is a broad band of black. UNDER-SIDE ferruginous: *fore-wing* with markings as above, but the four rows of markings along exterior margin white, and suffused at the apex and near the middle with ferruginous: *hind-wing* with the broad white band; abdominal margin, base of costal margin, and broadly across parallel with the band, suffused with white; a marginal and two submarginal rows of whitish marks, between which and the broad band a series of fine dark ferruginous spots from abdominal margin, and terminating in white marks on costal margin. Body above, black; beneath, white. Sexes alike. Expanse 2⅜ to 2½ inches.

a. b. ♂. N. India. Presented by Colonel Sykes.

c. ♀. N. India. Presented by Colonel Buckley.

d. ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

e. Ceylon. Donor unknown.

346. *NEPTIS NATA, Moore* (*Plate* IV*a*, *fig.* 6).

Neptis Nata, n. sp.—UPPER-SIDE deep black; markings very white: *fore-wing* with the discoidal streak long, in two portions; curved series of spots small: *hind-wing* with the bands narrow. UNDER-SIDE dusky-brown; inner band of hind-wing not extending to anterior margin; a marginal line *only* between outer band and exterior margin, the submarginal line being obsolete. Sexes alike. Expanse 2⅜ inches.

a. ♂. Borneo. Presented by Edwin Shepherd, Esq., 1857.

347. *NEPTIS NANDINA, Moore* (*Plate* IV*a*, *fig.* 7).

Neptis Nandina, n. sp.—UPPER-SIDE black; markings white: *fore-wing* with discoidal streak in two portions; the curved row of seven spots broadly interrupted; and submarginal row of small less-defined spots: *hind-wing* with inner band, and narrow outer row of less-defined square spots; indistinct marginal line and line between the bands, brown. UNDER-SIDE deep chocolate-brown, with markings as above, but more defined and of a brighter colour; those of the hind-wing gently curved. Sexes alike. Expanse 2¼ to 2⅝ inches.

a. ♂. Java. From Dr. Horsfield's Collection.

b. c. d. ♂ ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

Remark.—This species may be known from *Neptis Aceris* by the deep chocolate-colour of the under-side, by the anterior margin of hind-wing being evenly arched to beyond the middle; all the markings of this wing being nicely curved.

348. *NEPTIS ACERIS, Esper Sp.*

Papilio Aceris, *Esper, Ausl. Schmett. t.* 81, *cont.* 31, *f.* 3, 4, *t.* 82, *f.* 1 (1785). *Fabricius, Mant. Ins.* II. *p.* 52; *Ent. Syst.* III. *pt.* I. *p.* 245.

Neptis Aceris, *Horsfield, Cat. Lep. Mus. E.I.C. t.* 7, *f.* 9. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 271, *n.* 5.

Nymphalis Aceris, *Godart, Enc. Méth.* IX. *p.* 430.

Acca Aceris, *Hübner, Verz. bek. Schmett. p.* 44.

Limenitis Aceris, *Boisduval, Icon. Hist. t.* 18, *f.* 2; id.

Ind. Méth. p. 16. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 95. *Kollar, in Hügel's Kaschmir*, IV. *pt.* II. *p.* 428.

Papilio Plautilla, *Hübner, Europ. Schmett. Pap. f.* 99, 100 (1805).

Acca Matuta, *Hübner, Verz. bek. Schmett. p.* 44 (1816).

Neptis Matuta, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 272, *n.* 6.

Papilio Leucothoë, *Cramer, Pap. Exot.* IV. *t.* 296, *f. E. F.* (*nec. Linn.*)

Papilio Leucothoë, *apud Donovan, Ins. of China, 1st edit. t.* 35, *f.* 3.

Limenitis Eurynome, *Westwood, in 2nd edit. Donovan's Ins. of China, p.* 66, *t.* 35, *f.* 4 ( ).

Athyma Eurynome, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 274, *n.* 2.

a. b. c. d. e. f. ♂ ♀. Java. From Dr. Horsfield's Collection.

g. h. i. j. ♂ ♀. Europe. From M. Becker's Collection.

k. ♂. N. W. India. Presented by Colonel Hearsey.

l. m. ♂ ♀. Canara. Presented by S. N. Ward, Esq.

n. o. ♂. Darjeeling. From Pearson's Collection.

p. q. r. s. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

t. u. Borneo. Presented by H. Low, Esq.

v. w. ♂ ♀. China. From the Asiatic Society of Bengal.

x. ♂. Pinang. Presented by Dr. Cantor.

The larva and pupa of *Neptis Aceris* are figured on Plate V., fig. 10, 10*a*, from Java, where it "feeds on a species of *Hedysarum*, bearing the native name of *Kajangan*. May. Rather scarce."—(Horsfield, MS. Notes.)

Genus ATHYMA, *Westwood.*

ATHYMA, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 272 (1850).

Biblis, *p. Fabricius, Syst. Gloss. Horsfield, Desc. Cat. Lep. Mus. E.I.C. t.* 8, *f.* 3 (1829).

Acca, *p. Hübner, Verz. bek. Schmett.*

Limenitis, *p. E. Doubleday, List Lep. Brit. Mus.*

349. *ATHYMA LEUCOTHOË, Linnæus Sp.*

Papilio Leucothoë, *Linnæus, Mus. Lud. Ulr.* 292; *Syst. Nat. ed.* 12, II. *p.* 780. *Fabricius, Ent. Syst.* III. I. *p.* 129. *Sulzer, Hist. Ins. t.* 18, *f.* 2, 3.

Athyma Leucothoë, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 273.

Limenitis Leucothoë, *Westwood, in Donovan's Ins. of China* (*2nd edit.*). *Kollar, in Hügel's Kaschmir*, IV. *pt.* II. *p.* 428. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 94.

Acca Leucothoë, *Hübner, Verz. bek. Schmett. p.* 44.

Nymphalis Leucothoë, *Godart, Enc. Méth.* IX. *p.* 430.

Biblis Leucothoë, *Horsfield, Cat. Lep. Mus. E.I.C. t.* 8, *f.* 3.

Papilio Erosine, *Cramer, Pap. Exot.* III. *t.* 203, *f. E.F.*

Najas hilaris Erosine, *Hübner, Samml. Exot. Schmett. Band* I. *tab.*

Papilio Polyzena, *Donovan, Ins. of China, t.* 35, *f.* 4 (*1st edit.*).

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. ♂. Assam. From McClelland's Collection.

f. ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

g. ♂. N. India. Presented by Colonel Buckley.

The larva and pupa of *Athyma Leucothoë* are figured on Plate V., fig. 11, 11*a*, from Java, where it "feeds on a species of *Phyllanthus*, bearing the native name of *Dempul-lolot*. April."—(Horsfield, MS. Notes.)

Remark.—The specimens of *Athyma Leucothoë* from Java are smaller than those from India, and have the central band broader and the portions closer together. Sexes alike.

Captain Mortimer J. Slater remarks, in his MS. Notes, p. 152: "This insect and its allies hover and flit in the air, especially in little open places, as where two paths meet, and over pools of water, &c."

350. *ATHYMA ASURA, Moore* (*Plate* V., *fig.* 1).

Athyma Asura, n. sp.—UPPER-SIDE smoky-brown; markings creamy-white: *fore-wing* with a narrow discoidal streak, which is terminated at a short distance by an angular mark; a band of spots curving outward from anterior to middle of posterior margin, the first spot commencing as a very narrow line, second and third long and oval, fourth the smallest, fifth somewhat larger and rounded, sixth larger still and oval, seventh the largest, square, indented at the side, eighth narrow and on posterior margin; a submarginal row of well-defined lunular marks, terminated on the apex of the wing by an inner row of three small spots: *hind-wing* with a broad inner band; also a less broad band from abdominal to anterior angle, this being intersected by the veinlets, and having a single black spot in the middle between each veinlet; a marginal pale-brown line in both wings; a narrow bluish-white collar and band across the base of the abdomen. UNDER-SIDE bright ferruginous; markings as above, but the *fore-wing* has the submarginal row of marks broad, and having a black spot in the middle of each; also a marginal row of small spots; some black lines bordering the discoidal marks; also a small black circle near base of wing, and a patch of black on posterior margin near the angle: *hind-wing* with the inner, and spotted outer band the same as above; a bluish-green curved line across the base of wing, and a marginal row of lunular spots; body and upper part of abdominal margin bluish-green. Expanse 3 inches. Sexes alike.

a. ♀. N. India. Presented by Colonel Buckley.

Remark.—This species may be distinguished from all others by the outer band on the hind-wings having a central spot between each vein. Specimens of both sexes of *Ath. Asura* are in the Collection of W. W. Saunders, Esq.

351. *ATHYMA OPALINA, Kollar Sp.* (*Plate* V., *fig.* 2).

Limenitis Opalina, *Kollar, in Hügel's Kaschmir*, IV. *pt.* II. *p.* 427 (1844).

Athyma Opalina, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 274, *n.* 5.

a. ♂. N. India. From the Asiatic Society of Bengal.

b. ♂. N. India. Presented by Colonel Buckley.

c. ♂. N. India. Presented by Colonel Hearsey.

d. e. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

f. g. ♀. N. India. Presented by Edwin Shepherd, Esq., 1857.

Athyma Opalina may be distinguished by the discoidal streak being divided into *four* portions, as in *Ath. Leucothoë*, and by the deep ferruginous colour of the under-side being suffused in parts with grey and greyish-brown. Expanse $2\frac{3}{8}$ to $2\frac{7}{8}$ inches. Sexes alike.

352. *ATHYMA LARYMNA, E. Doubleday Sp.*

Limenitis Larymna, *E. Doubleday MS.*

Athyma Larymna, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 274, *n.* 7, *t.* 35, *f.* 1 (1850).

a. ♂. Borneo. Presented by Edwin Shepherd, Esq., 1857.

353. *ATHYMA JINA, Moore* (*Plate* V., *fig.* 3).

Athyma Jina, n. sp.—Male: UPPER-SIDE smoky-brown; markings creamy-white: *fore-wing* with the discoidal streak entire, long, broad, and thickening to the extremity; a series of seven spots from subcostal vein curving outward to middle of posterior margin, the first being small, second larger, broader, third narrow, fourth small, fifth larger, oval, sixth the largest, somewhat square and indented at the side, seventh narrow, elongated, triangular; a submarginal row of rather indistinct spots, those on the apex broadest: *hind-wing* with inner band somewhat narrow; outer band composed of broad lunulated spots; band across base of abdomen whitish. UNDER-SIDE brilliant ferruginous, posterior margin of fore-wing blackish; markings the same as above, but the *fore-wing* with an additional spot on costal margin to the curved row; extreme posterior margin blackish, bounded inwardly by a submarginal row of white lines: *hind-wing* with the inner band extending across abdominal margin; space *between* base of wing and costal vein white; extreme exterior margin blackish, bounded inwardly by a marginal row of narrow lunular marks; body white. Expanse 3 inches.

a. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

Remark.—*Athyma Jina* may at once be distinguished by the discoidal streak being entire.

354. *ATHYMA PRAVARA, Moore* (*Plate* V., *fig.* 4).

Athyma Pravara, n. sp.—UPPER-SIDE smoky-brown; markings creamy-white: *fore-wing* with an *entire* club-shaped streak; a transverse row of spots curving outward from costal vein towards the apex to middle of posterior margin, the first and second spots being rather large and square, the third much smaller, the fourth a mere dot, the fifth the largest, and oval, the sixth large and indented at the sides, the last narrow; a row of submarginal linear-shaped spots, more or less distinct: *hind-wing* with a broad inner band, and a narrow band of spots curving outwardly from anal angle to anterior angle; a submarginal line and abdominal margin light brown; body with a narrow bluish-white band across the thorax, and another across the base of the abdomen. UNDER-SIDE paler brown, with markings as above, but with dark-brown patches between the markings; body and abdominal margin greyish. Sexes alike. Expanse $2\frac{1}{8}$ inches.

a. ♂. Borneo. Presented by Edwin Shepherd, Esq., 1857.

b. ♀. Java. From Dr. Horsfield's Collection.

355. *ATHYMA NEFTE, Cramer Sp.*

♀ Papilio Nefte, *Cramer, Pap. Exot.* III. *t.* 256, *f. E.F.* (1782).

Athyma Nefte, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 274, *n.* 11.

Pantoporia Nefte, *Hübner, Verz. bek. Schmett. p.* 44.

Nymphalis Nefte, *Godart, Enc. Méth.* IX. *p.* 429.

Limenitis Nefte, *Boisduval, Spéc. Gén. Lép. t.* 8 (4*B*), *f.* 6. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 93.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. f. g. ♂ ♀. Borneo. Presented by Edwin Shepherd, Esq., 1857.

Remark.—The male of *Athyma Nefte* has all the markings of the upper-side white, these in the female being orange-coloured.

356. *ATHYMA INARA, E. Doubleday, Sp.*

♂ Limenitis Inara, *E. Doubleday MS.*

Athyma Inara, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 274, *t.* 34, *f.* 3 (1850).

a. b. c. ♂ ♀. N. India. Presented by Colonel Buckley.

d. ♀. N. India. Presented by Colonel Sykes.

e. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

Remark.—The female of *Athyma Inara* has all the markings on the upper-side orange-colour.

357. *ATHYMA CAMA, Moore* (*Plate* V., *fig.* 5, ♂ ♀).

Athyma Cama, n. sp.—Male: UPPER-SIDE velvety-black; *fore-wing* with brown marginal and submarginal line; discoidal streak indistinct ferruginous, and dusted over with black; near the apex a ferruginous spot; two oblique spots from subcostal vein on one-third of the wing from the apex, and a band of three spots from middle of wing to posterior margin, joining a band across hind-wing, white, bordered with blue; on the hind-wing also a marginal and submarginal brown line; body black, with a broad white band across base of abdomen. UNDER-SIDE pale ferruginous; markings purplish-white; the curved band as above: *fore-wing* with a long broad irregular discoidal streak, submarginal and indistinct marginal line; a black patch near the base of wing and posterior angle: *hind-wing* with a curved line near base of wing, and a rather broad outer band; a marginal row of marks; some patches of brown between outer and inner band; body and abdominal margin broadly grey. Female: UPPER-SIDE black; markings ferruginous: *fore-wing* with a long discoidal streak; an oblique band from anterior to near middle of exterior margin, and nearly joining a band running to middle of posterior margin; a marginal and submarginal brown line, the latter ferruginous anteriorly and posteriorly: *hind-wing* with a broad inner and narrower outer band; also a marginal brown line; body black, with a *white* band across base of abdomen, and bound below with ferruginous; also a pale-white collar. UNDER-SIDE ferruginous; markings as in male, but pinky-white, except marginal and submarginal lines, which are purplish-white. Expanse of wings in male $2\frac{1}{2}$ to $2\frac{7}{8}$ inches; female, 3 inches.

a. b. ♂. Darjeeling. From Pearson's Collection.

c. ♂. Darjeeling. Presented by Colonel Buckley.

d. e. f. ♂ ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

Remark.—The male of *Athyma Cama* may at once be known from that sex of *Athyma Selenophora* in having on the upper-side a ferruginous spot close to the apex, and the band on the fore-wing being composed of *three* spots.

358. *ATHYMA SELENOPHORA, Kollar Sp.*

Limenitis Selenophora, *Kollar, in Hügel's Kaschmir*, IV. *pt.* II. *p.* 426, *t.* 7, *f.* 1, 2 (1844). *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 276, *n.* 8.

a. ♂. N. India. Presented by Colonel Buckley.

b. c. d. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

e. f. ♂ var. (with discoidal streak in two portions). Darjeeling.

Athyma Selenophora.—The male may be distinguished from *Athy. Cama* on the upper-side by having the oblique sub-apical spots narrow, and the band on the fore-wing being composed of *four* spots; in the under-side being of a darker ferruginous colour, and the streak along discoidal cell being divided into four portions, and in having darker black blotches; also in having on the hind-wing four short black lines disposed between the inner band and discoidal vein. Expanse of male 2⅝ inches. Female unknown, but would have the markings above ferruginous.

359. *ATHYMA RANGA, Moore* (*Plate* V., *fig.* 6).

Athyma Ranga, n. sp.—UPPER-SIDE smoky-black: *fore-wing* with a curved interrupted white band from anterior margin, one-third from the apex, to middle of posterior margin, being composed of eight spots, the first on anterior margin, very narrow, second, third, and fourth elongate-conical, the fourth being the shortest, fifth triangular and broadly divided from the fourth, sixth broad, largest, and nearly square, seventh narrower and broadly divided from the sixth, eighth long and narrow; a marginal and submarginal row of rather indistinct whitish spots; base of wing covered with indistinct white spots: *hind-wing* with broad inner band, intersected by the veins; an outer or submarginal row of broad conic-shaped indistinct white spots; a marginal row of very indistinct spots; also indistinct spots at the base of wing; abdominal margin whitish; body dark brown, abdomen with two rows of small white spots. UNDER-SIDE with the markings

the same, and very distinct; body and abdominal margin greenish-white. Expanse $2\frac{3}{8}$ inches. Sexes alike.

a. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

Specimens of both sexes are in the Collection of W. W. Saunders, Esq.

360. *ATHYMA MAHESA, Moore* (*Plate* V., *fig.* 7).

Athyma Mahesa, n. sp.—UPPER-SIDE smoky-black, *fore-wings* with a green gloss in some lights: *fore-wing* with three oblique white ovate spots from subcostal vein, one-third from the apex; two white spots in middle of the wing, the upper one very small, and two white spots on middle of posterior margin, the upper oval, the lower narrow; two indistinct white spots in discoidal cell, and some indistinct greenish spots at the base of the wing; a marginal and submarginal row of light-brown spots: *hind-wing* with an inner white band, divided by the veins, and an outer or submarginal row of indistinct brownish-white conic-shaped spots; also a very indistinct marginal row of small light-brown spots; body brown, abdomen with two rows of white spots. UNDER-SIDE paler, tinged with ferruginous about the disc; markings the same, but all very distinct, and more or less white; the spots within discoidal cell and base of *fore-wing* divided by black marks; base of costal margin yellowish-white: *hind-wing* with space between precostal and costal vein yellowish-white; a curved oval black mark, whitish within, between the costal vein and inner band; a row of black patches between inner and outer band; body, and broadly on abdominal margin, yellowish-grey. Expanse $2\frac{7}{8}$ inches.

a. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

Remark.—*Athyma Mahesa* may be known from the preceding by its larger size and much narrower band.

Genus Nov. ABROTA, *Moore.*

Head of moderate size, tufted in front.

Eyes prominent, naked.

Antennæ long, filiform at the base, gradually thickening to a slender cylindric club.

Labial palpi elevated above the level of the eyes, hairy, those at the base, side, and in front, long.

Thorax robust, clothed with long hairs.

Abdomen of moderate size.

Fore-wings elongate-trigonate; anterior margin boldly curved; apical angle slightly rounded; outer margin somewhat straight in the male, concave in the female, slightly waved, two-thirds the length of the anterior; posterior margin slightly concave, rather longer than the outer; costal vein thick at the base, extending to beyond the middle of the costa; subcostal vein with the first branch arising about one-fourth the length of the wing, second a little beyond it, and before the extremity of the discoidal cell, third branch arising at two-thirds the length of the wing, and extending in a slight curve to the tip, fourth branch straight, arising half-way between it and the apex, which it reaches just below the tip; the terminal portion of the vein deflexed; upper disco-cellular vein very short, outwardly oblique, arising at one-third from the base of the wing; middle disco-cellular vein curved outward; lower disco-cellular vein long, curved outward, and uniting with the third branch of the median vein at a little distance beyond its origin, closing the cell at a little more than one-third the length of the wing.

Hind-wings somewhat rounded; anterior margin arched at the base, from thence nearly straight to the apex, where it curves slightly downward; exterior margin rather longer than the anterior, rounded and waved; precostal vein curved outward; costal vein curved, extending to the apex; subcostal vein branching near its base; upper disco-cellular vein arising at a short distance from the base of the subcostal branch; lower disco-cellular vein obsolete, so that the cell is open.

Fore-legs of the male slender; femur scaly in front, beneath clothed with fine long silky hairs; tibia as long as the femur, clothed with downy hairs; tarsus two-thirds the length of tibia, conical, covered with uniform hairs.

Fore-legs of the female scaly; femur with a few silky hairs beneath; tarsus rather longer than the male, truncated at the tip, where it is finely spined beneath.

Four hind-legs moderately long, of equal length; tibia shorter than the femur; femur thickly scaled; tibia thickly clothed with short scaly hairs, with two rows of short thick spines; tarsus as long as the tibia, thickly clothed at the sides and beneath with rows of short spines; claws sharp, and much curved.

361. *ABROTA GANGA, Moore* (*Plate* VIa, *fig.* 1, ♂ ♀).

Abrota Ganga, n. sp.—Male: UPPER-SIDE ferruginous: *fore-wing* along upper part of discoidal cell, a spot, and disco-cellular mark within it, a broad oblique streak, tapering from middle of costal vein to middle of lower discoidal veinlet, then extending in a zigzag manner to posterior margin near the base, the space between the latter and median vein only smeared, exterior and apical margin, submarginal line, and smeary patches near the apex and lower part of disc, black: *hind-wing* with marginal, submarginal, third and fourth inner bands, black; ciliæ with small white spots. UNDER-SIDE dull-yellow, with duller exterior margins; a distinct dark narrow streak from near apex of fore-wing to near abdominal margin; two indistinct zigzag lines across disc, and markings about the base of both wings dull-ferruginous; from apex of fore-wing some white spots. Female black-brown: *fore-wing* with streak from base along lower part of discoidal cell to middle of wing, with a dentate mark on disco-cellular vein; two outward oblique spots from near apex; a broad band from middle of disc, inward oblique, to posterior margin, and indistinct submarginal series of small spots, pale ferruginous; also two small outward oblique white spots at the apex: *hind-wing* with broad inner and narrower outer slightly-curved bands, pale ferruginous; ciliæ with small white spots. UNDER-SIDE pale chocolate-brown, with patch on costal margin near the apex, space about the disc of fore-wing and across middle of hind-wing, yellowish; an ill-defined streak from near apex of fore-wing to middle of abdominal margin; zigzag lines across disc, and patches about base of both wings, whitish; some spots at apex of fore-wing white. Expanse of male 3, female $3\frac{5}{8}$ inches.

a. b. c. d. e. f. ♂ ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

Genus LIMENITIS, *Fabricius.*

LIMENITIS, *Fabricius, Syst. Gloss.* (*Illiger's Mag.* VI. *p.* 281, 1807). *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 274.

NYMPHALIS, *Boisduval, Ind. Méth. Eur. Lép. p.* 16 (1840). *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 96.

ACCA, *p. Hübner, Verz. bek. Schmett.*

LIMENITIS, *p. E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 96.

NEPTIS, *p. Horsfield, Cat. Lep. Mus. E.I.C. t.* 7, *f.* 8.

BIBLIS, *p. Horsfield;* id. *t.* 8, *f.* 4.

362. *LIMENITIS PROCRIS, Cramer Sp.*

Papilio Procris, *Cramer, Pap. Exot.* II. *t.* 106, *f. E.F.* (1779). *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 138.

Limenitis Procris, *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 97. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 276, *n.* 7.

Nymphalis Procris, *Godart, Enc. Méth.* IX. *p.* 404.

Biblis Procris, *Horsfield, Cat. Lep. Mus. E.I.C. t.* 7, *fig.* 8.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. f. ♂ ♀. N. India. Presented by Colonel Sykes.

g. h. ♂. N. India. Presented by Colonel Buckley.

The larva and pupa of *Limenitis Procris* are figured on Plate V., fig. 12, 12*a*, from Java, where it "feeds on a species of *Nauclea*, bearing the native name of *Kleppu*. June."—(Horsfield, MS. Notes.)

363. *LIMENITIS ZULEMA, E. Doubleday.*

Limenitis Zulema, *E. Doubleday, MS. Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 276, *n.* 2, *t.* 34, *f.* 1 (1850).

a. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

364. *LIMENITIS ALANKARA, Horsfield Sp.*

Aconthea Alankara, *Horsfield, Cat. Lep. Mus. E.I.C. t.* 5, *f.* 6 (1829).

Limenitis Alankara, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 276, *n.* 14.

a. ♂. Java. From Dr. Horsfield's Collection.

Remark.—This species also inhabits Malacca and Sumatra.

365. *LIMENITIS PADUKA, Moore.*

Limenitis Paduka, n. sp.—This is larger than *Lim. Alankara*, and has the upper-side darker: *fore-wing* with the white patch at the apex larger, the marginal zigzag markings thicker, and with blackish

markings between: on the *hind-wing* the fascia terminates very narrowly on the abdominal margin, where it is bluish; the marginal zigzag markings are less defined and wider apart, and with blackish markings between. In the female, the wings are more rounded than in the other sex. Expanse 2⅝ inches.

a. b. ♂ ♀. Borneo. Presented by Hugh Low, Esq.

366. *LIMENITIS ISMENE, E. Doubleday.*

♂ Limenitis Ismene, *E. Doubleday, MS. Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 276, *n.* 10, *t.* 34, *f.* 2 (1850).

a. b. c. ♂. Silhet. Presented by Colonel Buckley.

367. *LIMENITIS DARAXA, E. Doubleday.*

Limenitis Daraxa, *E. Doubleday, MS. Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 276, *n.* 11, *t.* 34, *f.* 4 (1850).

a. b. c. d. ♂ ♀. Darjeeling. From Pearson's Collection.

e. f. ♂. N. India. Presented by Lieutenant Hugo James.

368. *LIMENITIS DUDU, Westwood.*

Limenitis Dudu, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 276, *n.* 13 (1850).

a. ♂. N. India. Presented by Lieutenant Hugo James.

b. c. d. ♂ ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

e. ♂. Darjeeling. From Messrs. Schlagintweit's Collection.

369. *LIMENITIS DANAVA, Moore* (*Plate* VIa, *fig.* 2, ♂ ♀).

Limenitis Danava, n. sp.—Male: UPPER-SIDE dark olive-brown from base to disc of fore-wing, and from base to one-third of hind-wing, the rest being pale olive-brown; a transverse dark band crossing the disc of fore-wing and middle of hind-wing; a dark submarginal wavy line and two indistinct inner wavy lines crossing both wings; some indistinct markings within the discoidal cell with paler centres,

and a small green patch at anal angle. UNDER-SIDE of a golden-glossed obscure ashy-brown ochreous colour: *fore-wing* with markings at the base; a transverse row of lunulated marks, and an indistinct submarginal row of very small spots, purple-ashy; also a whitish patch at the apex, and a narrow yellowish line across the disc: *hind-wing* with broad inner and submarginal band purple-ashy, the latter with small whitish spots along its middle; two marks within and one above the discoidal cell whitish. Female: UPPER-SIDE with portions at the base, as in male, dark brownish-green; the middle of both wings white, with broad greenish-brown band crossing the disc; exterior margins broadly paler greenish-brown, with green patch at the anal angle; markings at base of wings pale. UNDER-SIDE pale greenish-yellow, with greenish-golden gloss; bands and markings as in upper-side, but less distinct and whitish. Expanse from 3 to 3½ inches.

a. b. ♂. Darjeeling. From Pearson's Collection.

c. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

d. e. f. ♀. N. India. Presented by Colonel Buckley.

370. *LIMENITIS ZAYLA, E. Doubleday.*

Limenitis Zayla, *E. Doubleday, MS. Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 276, *n.* 12, *t.* 35, *f.* 4 (1850).

a. b. ♂. Darjeeling. From Pearson's Collection.

c. ♂. N. India. Presented by Colonel Buckley.

d. e. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

Genus Nov. PANDITA, *Moore.*

Head rather small.

Eyes prominent, naked.

Labial palpi rather short, directed upwards to about the middle of the eyes, extended a little in front of the head, hairy; those at the base long; apical joint conic.

Antennæ rather longer than half the fore-wing, straight, with an elongated slender club.

Thorax moderately robust, covered with scales, the sides hairy.

Fore-wings elongate-trigonate, anterior margin arched, apical angle

rounded; exterior margin two-thirds the length of anterior, more or less scalloped; posterior margin about the same length as exterior, somewhat rounded near the base and the angle; costal vein moderately strong, extending to the middle of anterior margin; subcostal vein with its first branch arising at one-fourth of the wing from the base, and extending to the costal margin at one-third from the apex, second branch arising a little beyond the first, some distance before the extremity of the discoidal cell, and terminating one-fourth from the apex, third branch commencing at one-third from, and extending to, the apex, fourth branch at one-fifth of the wing, and terminating a little below the apex; first disco-cellular vein very short, almost obsolete, commencing obliquely a little beyond the base of the third subcostal branch; second disco-cellular vein five times the length of the first, descending in an oblique inward curve; third disco-cellular vein rather slender, but distinct, long, descending straight, but uniting in a curve with the third median veinlet immediately above its origin, thus closing the discoidal cell.

Hind-wings quadrate-trigonate; the extreme base of the anterior margin arched, the rest of it nearly straight; exterior margin somewhat rounded, scalloped; abdominal margin grooved, about the same length as anterior; precostal vein curved outwardly; costal vein arched to about the middle, and then straight to the apex; subcostal vein branching off nearly straight, opposite the junction of the precostal; first disco-cellular vein straight, oblique, arising a little beyond the subcostal; lower disco-cellular vein obsolete; discoidal cell open.

Fore-legs very small, with fine silky hairs; femur rather longer than the tibia; tarsus half the length of the tibia, simple: the other legs broken off.

Abdomen rather small, slender, hairy.

Remark.—This genus is somewhat allied to *Limenitis* and *Heterochroa*.

371. *PANDITA SINOPE, Boisduval Sp.* (*Plate* VI*a*, *fig.* 3).

Adolias Sinope, *Boisduval, MS. Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 292, *n.* 25 (1850).

a. ♂. Java. From Dr. Horsfield's Collection.

Pandita Sinope, n. sp.—UPPER-SIDE bright fulvous: *fore-wing* with the costal margin and basal half of wing golden-brown; exte-

rior margin, submarginal line, a pale inner parallel line, also a rather broad zigzag band, curving outward across the disc from the apical third of the costal margin to inner margin near angle, and transverse markings within and below discoidal cell, black: *hind-wing* with the base golden-brown; abdominal margin plain dull-brown; a broad exterior marginal band, a submarginal line, an inner broad band, also a rather zigzag ill-defined band across the disc, and markings about the discoidal cell, black, the black colour being darkest on the submarginal lines and discoidal markings. UNDERSIDE paler fulvous, the markings the same as in upper-side, but very indistinct; body and abdominal margin grey. Expanse of wings $2\frac{1}{10}$ inches. Sexes alike. Female in British Museum.

August 20th, 1857.

Stirps IV., with THYSANURIFORM Larva.

THYSANURIFORM, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 48 (1828).

RASORIAL, *or* THYSANURIFORM, *Swainson, Cab. Cyclop. pp.* 58, 62 (1840).

PAP. DANAÏ FESTIVI (*part*), *Linnæus.*

PAP. NYMPHALES, GEMMATI *et* PHALERATI (*part*), *Linnæus.*

LEP. TETRAPODA (*part*), *Latreille, Règ. Anim.* V. *p.* 378 (1829).

NYMPHALIDÆ (*part*), *Swainson, Phil. Mag.* I. *p.* 187 (1827); id. *Cab. Cyclop. pp.* 86, 92 (1840). *Stephens, Brit. Ent. Haust.* I. *p.* 27 (1827); id. *List Brit. Lep. Brit. Mus. pt.* I. *p.* 6 (1850). *Westwood, Introd. to Ent.* II. *p.* 353 (1840); id. *in Doubleday and Hewitson's Diurnal Lep. p.* 144 (1852). *Dup. C. p.* 8 (1846). *Stainton, Manual Brit. Butt. pp.* 10, 21 (1856).

NYMPHALIDES (*part*), *Boisduval, Spéc. Gén. Lép.* I. *p.* 165 (1836); id. *Ind. Méth. Eur. Lép. p.* 16. *Blanchard, Hist. Nat. des Ins.* II. *p.* 331.

NYMPHALII *et* NYMPHALITES (*part*), *Blanchard, Hist. Nat. des Ins.* II. *pp.* 322, 329, 333 (1845).

NYMPHALIDI (*part*), *Stephens, List Brit. Lep. Brit. Mus. pt.* I. *p.* 10 (1850). *Stainton, Manual Brit. Butt. pp.* 21, 33 (1856).

APATURIDES, *Boisduval, Ind. Méth. p.* 24 (1840).

MORPHIDES, *Boisduval, Spéc. Gén. Lép.* I. *p.* 166 (1836).

MORPHITES, *Blanchard, Hist. Nat. des Ins.* II. *p.* 334 (1845).

MORPHIDÆ, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 332 (1851).

BRASSOLIDES, *Boisduval, Spéc. Gén. Lép.* I. *p.* 166 (1836).

BRASSOLITES, *Blanchard, Hist. Nat. des Ins.* II. *p.* 334 (1845).

BRASSOLIDÆ, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 350 (1851).

SATYRIDES, *Boisduval, Spéc. Gén. Lép.* I. *p.* 166 (1836); id. *Ind. Méth. Eur. Lép. p.* 25.

SATYRIDÆ, *Swainson, Cab. Cyclop. pp.* 86, 93 (1840). *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 352 (1851).

SATYRITES, *Blanchard, Hist. Nat. des Ins.* II. *p.* 335 (1845).

SATYRIDI, *Stephens, List Brit. Lep. Brit. Mus. pt.* I. *p.* 6 (1850).

BIBLIDES, *Boisduval, Spéc. Gén. Lép.* I. *p.* 167 (1836).

Biblites, *Blanchard, Hist. Nat. des Ins.* II. *p.* 332 (1845).

Eurytelidæ, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 403 (1851).

Libythides, *Boisduval, Spéc. Gén. Lép.* I. *p.* 167 (1836); id. *Ind. Méth. p.* 23.

Libytheites, *Blanchard, Hist. Nat. des Ins.* II. *p.* 332 (1845).

Libytheidæ, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 412 (1851).

Genus ADOLIAS, *Boisduval.*

Adolias, *Boisduval, Spéc. Gén. Lép. Planches, p.* 2, *t.* 3, *f.* 2 (1836). *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 289.

Aconthea, *Horsfield, Cat. Lep. Mus. E.I.C. t.* 8, *f.* 6 (1829); *Zool. Journ.* V. *p.* 65 (1830).

Symphædra, Euthalia, Cymothoë, *pt. Hübner.*

Nymphalis, *pt. Godart.*

Itanus, *E. Doubleday, MS.*

372. *ADOLIAS ACONTHEA, Cramer Sp.*

♂ ♀ Papilio Aconthea, *Cramer, Pap. Exot.* II. *t.* 134, *f. D.E.* ♂, *F.G.* ♀ (1779).

Adolias Aconthea, *Boisduval, Spéc. Gén. Lép. List of Plates, p.* 2, *t.* 3, *f.* 2 (1836). *E. Doubleday, List Lep. Brit. Mus. pt* I. *p.* 103. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 291, *n.* 1.

Nymphalis Aconthea, *Godart, Enc. Méth.* IX. *p.* 383.

Cymothoë Aconthea, *Hübner, Verz. bek. Schmett. p.* 39.

♂ Nymphalis Disconthea, *Godart, Enc. Méth.* IX. *p.* 384 (1819).

Aconthea primaria, *Horsfield, Cat. Lep. Mus. E.I.C. t.* 8, *f.* 6 (1829).

a. b. c. d. e. f. ♂ ♀. Java. From Dr. Horsfield's Collection.

The transformations of *Adolias Aconthea* are figured on Plate VI., fig. 1, 1*a*, from Java, and "feeds on the Mango."—(Horsfield, MS.)

373. *ADOLIAS PARTA, Moore.*

Adolias Parta, n. sp.—Male: Upper-side dark brown, with a vinaceous tinge: *fore-wing* with a paler transverse band, margined broadly on both sides with black, the anterior portion within, from

costal margin on both sides, with a series of small white patches; marks within discoidal-cell black, with dark-brown centres: *hind-wing* with an inner blackish band and outer row of small black spots. UNDER-SIDE paler, marked as above. Female: UPPER-SIDE pale brown: *fore-wing* with broad whitish curved transverse band, with patch on costa, and dark margins: *hind-wing* with rather broad inner band, and outer zigzag line, the point between each vein with a minute darker dot; space between inner band and base tinged with white; marks at base of wings blackish. UNDER-SIDE pale dull ochreous, with paler margins; markings as above, but very indistinct. Expanse of male $2\frac{3}{8}$, female, $2\frac{7}{8}$ inches.

a. ♀. Borneo. Presented by Edwin Shepherd, Esq., 1857.

The male of *Adolias Parta* is in the Collection of W. W. Saunders, Esq.

374. *ADOLIAS GARUDA, Moore.*

Adolias Garuda, n. sp.—Male: UPPER-SIDE glossy greenish-brown: *fore-wing* with costal margin to its middle, a broad irregular band from thence to posterior margin, black, the latter bordered exteriorly, anteriorly from costal vein, with five white spots; two small white spots on costal margin one-fourth from the apex; exterior margin and submarginal band blackish; within discoidal-cell, first a short line, then two reniform marks, black: *hind-wing* with curved dentate blackish band from middle of anterior margin to near abdominal margin; a submarginal row of small deep-black spots; exterior margin near anal angle blackish; within discoidal-cell some black markings, and two small black spots without, one above, the other below the cell. UNDER-SIDE light chocolate-brown, greyish towards the base: *fore-wing* with black marks within discoidal-cell as above, and a small black spot below it; the row of five white spots and the two apical spots as above; from the latter, across the disc to posterior margin, runs a narrow interrupted black band; at the apex and along the exterior margin some bluish-grey spots: *hind-wing* with four lines within discoidal-cell, a small spot, and two oval marks above, black; an indistinct band across the disc; submarginal row of black spots as above; a patch of bluish-grey at anterior angle. Female pale brown, with a greenish gloss: UPPER-SIDE with markings as in male, but less defined; the row of white spots of the fore-wing are larger, and the submarginal row of black

spots on the hind-wing are also larger than in the male. UNDER-SIDE as in that of the male. Wings shaped as in *Adol. Aconthea*. Expanse of male $2\frac{3}{8}$, female, $2\frac{7}{8}$ inches.

a. b. c. ♂ ♀. N. India. Presented by Colonel Sykes.
d. e. ♂ ♀. N. India. Presented by Colonel Buckley.
f. g. ♂ ♀. Madras. From Captain J. M. Jones's Collection.

The transformations of *Adolias Garuda* are figured on Plate VI., fig. 2, 2*a*, from General Hardwicke's original drawings in the British Museum.—"Feeds on *Trophis aspera* and on a species of *Bryonia*. March."—(Hardwicke.)

The transformations of this species were also observed by A. Grote, Esq., of Calcutta, and are figured among his original drawings. It "feeds upon the Mango."

375. *ADOLIAS PHEMIUS, E. Doubleday Sp.*

♂ Itanus Phemius, *E. Doubleday, MS.*
♂ Adolias Phemius, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 291, *n.* 13, *t.* 41, *f.* 4 (1850).

a. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

Both sexes of *Adolias Phemius* are in the British Museum Collection.

376. *ADOLIAS ANOSIA, Boisduval MS.*

Adolias Anosia, n. sp.—Male: UPPER-SIDE dark ash-green, with the anterior margin of hind-wing broadly pinky-brown: *fore-wing* with broad transverse band of ashy-white irrorations; black markings within discoidal-cell, and some below it, bordered with ashy-white irrorations: *hind-wing* with ashy-white irrorations on lower part of the disc, bordering the discoidal marks, and a spot above and below the cell, also bordering a submarginal row of black spots. UNDER-SIDE creamy ash-colour, palest on the anterior half, which is covered with rather indistinct darker short transverse striæ; markings within and about discoidal-cell black; on the hind-wing an indistinct submarginal row of black spots. Female: UPPER-SIDE paler ash-green than the male; exterior margins brownish; markings disposed the same; fore-wing with a curved row of five white spots from

middle of costal margin; the irrorated band paler and more clearly defined; an indistinct inward oblique row of black spots from near apex to near middle of posterior margin: *hind-wing* with indistinct black curved band from middle of anterior to middle of abdominal margin; also an indistinct submarginal row of black spots. UNDERSIDE paler than in the male, marked as upper-side, with the curved row of five spots bordered inwardly with dark brown; the indistinct oblique row of blackish spots from apex only to middle of the disc, the lower part being suffused with dark brown; exterior margin dark brown: *hind-wing* with indistinct inner band and submarginal row of large dark-brown spots; anterior wing in both sexes much falcated. Expanse of male $2\frac{1}{2}$, female, 3 inches.

a. b. c. d. ♂ ♀. N. India. Presented by Colonel Sykes.

377. *ADOLIAS ALPHEDA, Godart Sp.*

Nymphalis Alpheda, *Godart, Enc. Méth.* IX. *p.* 384 (1819).

Adolias Alpheda, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 291, *n.* 20.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

378. *ADOLIAS ADONIA, Cramer Sp.*

♀ Papilio Adonia, *Cramer, Pap. Exot.* III. *t.* 255, *f. C.D.* (1782).

Adolias Adonia, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 291, *n.* 11.

Euthalia Adonia, *Hübner, Verz. bek. Schmett. p.* 41.

Nymphalis Adonia, *Godart, Enc. Méth.* IX. *p.* 400.

♂ Aconthea Lubentina, *apud Horsfield, Cat. Lep. Mus. E.I.C. t.* 5, *f.* 5.

a. b. ♂ ♀. Java. From Dr. Horsfield's Collection.

379. *ADOLIAS LUBENTINA, Cramer Sp.*

♀ Papilio Lubentina, *Cramer, Pap. Exot.* II. *t.* 155, *f. C.D.* (1779). *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 121 (1793). *Donovan, Ins. of China, t.* 36, *f.* 3, ♂.

Adolias Lubentina, *Boisduval. E. Doubleday, List Lep.*

Brit. Mus. pt. I. *p.* 103. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 291, *n.* 10.
Euthalia Lubentina, *Hübner, Verz. bek. Schmett. p.* 41.
Nymphalis Lubentina, *Godart, Enc. Méth.* IX. *p.* 400.

a. b. ♂ ♀. N. India. Presented by Colonel Buckley.
c. ♀. N. India. Presented by Colonel Sykes.
d. ♂. N. India. Presented by Edwin Shepherd, Esq., 1857.

The male of *Adol. Lubentina* is correctly figured by Donovan, and the female by Cramer.

The transformations of *Adolias Lubentina* are figured among the original drawings of A. Grote, Esq., of Calcutta, and will be drawn on a subsequent Plate of this Catalogue.—"Feeds upon *Loranthus*."

380. *ADOLIAS SALIA, Moore.*

Adolias Salia, n. sp.—Male: UPPER-SIDE deep dark brown: *fore-wing* from costal margin near apex to posterior margin near angle, a narrow zigzag white line, margined outwardly with black and then with dull blue; within the anterior portion of this line the ground-colour is paler; indistinct black markings at the base; narrow ciliæ spotted with white: *hind-wing*, from anterior margin near angle, a rather broad white band, slightly curving to abdominal margin near anal angle, and which is margined outwardly with a zigzag black line, the points being inward; anterior angle pale brown; from anal angle outside the band, dull blue; narrow ciliæ white. UNDER-SIDE dull ochreous; the transverse band of the fore-wing broad, and partly brown anteriorly, white posteriorly, and both wings margined within with dusky black, and outwardly with zigzag black line; markings at base of wing black; exterior margin dusky; body and abdominal margin greenish-ochreous. Female dull brown: *fore-wing* with broad tapering transverse white band, intersected by the veins, and suffused more or less with brown anteriorly on the inner portion, and margined outward with a narrow lanceolate black line, the points being inward; base of wing with indistinct black marks: *hind-wing* with broad white band, intersected by the veins, slightly curving from anterior margin to abdominal margin near anal angle, being margined outwardly with broad lanceolate black marks, the point being inward, these again being narrowly margined outwardly with white; base of wing with indistinct marks; narrow ciliæ

spotted with white. UNDER-SIDE ochreous; markings as above, but the bands less distinct; body and abdominal margin greenish-grey. Shape of wings as in *Ad. Aconthea;* expanse of male $2\frac{1}{8}$, female, $2\frac{5}{8}$ inches.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

381. *ADOLIAS PALGUNA, Moore.*

Adolias Palguna, n. sp.—Male: UPPER-SIDE dull brown, dusky about the apex: *fore-wing* with a transverse band of irregular-shaped white spots, more or less suffused with brown, the outer margins of which have lanceolate black marks pointing inward; base of wing with indistinct marks: *hind-wing* with narrower curved white band from anterior margin to anal angle, margined outwardly with a broad lanceolate mark between each vein, and again by bluish-white; inner portion of disc pale, with indistinct black marks at base of wing. UNDER-SIDE pale greyish-white, tinged with ochreous at the base and apex; with markings as above, but very indistinct; abdominal margin greenish-grey. Female, above as in male, but paler, the under-side being tinged with very pale purple on the exterior half. Wings shaped as in *Ad. Trigerta;* expanse of male $2\frac{1}{4}$, female, $2\frac{3}{4}$ inches.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

382. *ADOLIAS PULASARA, Moore.*

Adolias Pulasara, n. sp.—Allied to *Adol. Palguna,* but differs in the male on the upper-side, in the *fore-wing,* in having the transverse band tinged with hyaline-blue; there is also a cyaneous tinge about the extremity of the cell: the band on the *hind-wing* is rather broader, and composed of less lanceolate portions. UNDER-SIDE very pale ochreous, band of fore-wing tinged with pale hyaline-blue: *hind-wing* with two rows of small deep-black lanceolate spots (representing the band of the upper-side); base of wing with a number of deep-black marks. Female: UPPER-SIDE as in male, and the under-side with paler markings. Expanse of male $2\frac{5}{8}$, female, 3 inches.

a. ♀. Pinang. Presented by Dr. Cantor.

Remark.—The male of *Ad. Pulasara* is in the Collection of W. W. Saunders, Esq.

383. *ADOLIAS PUSEDA, Moore.*

Adolias Puseda, n. sp.—Female: UPPER-SIDE brown, with a pale purple tinge: *fore-wing* with a broad band of irregular-shaped purplish hyaline-like spots, each spot being concave on the outward margin; also a submarginal row of ill-defined whitish spots; base of wing with indistinct black marks: *hind-wing* with two curved rows of indistinct whitish spots, with some indistinct blue spots between the two rows. UNDER-SIDE ochreous, whitish on the exterior margins; band of *fore-wing* bluish-white, bound outwardly narrowly with brown; distinct black marks within discoidal-cell: *hind-wing* with two narrow curved indistinct ochreous-brown bands. Expanse 3 inches.

a. ♀. Pinang. Presented by Dr. Cantor.

384. *ADOLIAS TRIGERTA, Moore.*

Adolias Trigerta, n. sp.—UPPER-SIDE dark brown: male, *fore-wing* with a transverse row of six whitish spots, more or less suffused with brown, from subcostal vein one-third from the apex to near posterior margin near the angle, the first two spots being long and oval, third the smallest, fourth and fifth larger than the third, and both alike, sixth smaller and heart-shaped, all of them terminating outward in a point, which is bounded by black; base of wing with indistinct black markings; posterior margin at the angle with a small blue patch: *hind-wing* with a band of seven clear white spots, curving from anterior margin near the angle to abdominal margin near the anal angle, these spots having within each on the outward portion a black lanceolate mark pointing outward, these being slightly margined laterally with blue, and those nearest the anal angle with a short black line crossing the vein above the lanceolate mark; base of wing with indistinct black markings; abdominal margin pale brown. UNDER-SIDE greyish: *fore-wing* with the costal margin and basal half ochreous-yellow; the band of spots less distinct than above, but bounded inwardly with black lunulated marks, and outwardly with a black spot at the point of each; the markings at the base of the wing broadly black: *hind-wing* with a purple-red tinge on the anterior half; the band of spots less defined, bounded inwardly with black lunulated marks, and outwardly with triangular black spots, those near the anal angle with a narrow line above; base of wing with broad black marks within, above, and below the discoidal-cell; body and legs ochreous. Female above as in the

male, but with the markings larger; under-side as in male, but the markings less distinct. Expanse of male $2\frac{1}{2}$, female, $2\frac{3}{4}$ inches. Hind-wings of the male rounded, as in female.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

385. *ADOLIAS IAPIS, Godart Sp.*

Nymphalis Iapis, *Godart, Enc. Méth.* IX. *p.* 382 (1819). *Lucas, Hist. Nat. Lep. Exot. t.* 69, *f.* 1.

Adolias Iapis, *Boisduval. E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 104. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 291, *n.* 8.

a. b. c. d. e. f. ♂ ♀. Java. From Dr. Horsfield's Collection.

386. *ADOLIAS AMBALIKA, Moore.*

Adolias Ambalika, n. sp.—Female: UPPER-SIDE dark brown: *fore-wing* with transverse band of white spots, each spot with a long black point outward, between the veins; also an outer row of less-defined lanceolated whitish marks; black markings at base of the wing: *hind-wing* with transverse band of smaller spots as in fore-wing, also with an outer row of lanceolate marks. UNDER-SIDE pale ochreous, marked as above, with the black marks to the white band broader. Variety: UPPER-SIDE much darker brown: *fore-wing* with the transverse band suffused with brown; space between the band to near exterior margin bluish: *hind-wing* with less-defined band of smaller lanceolate marks, between which to near exterior margin bluish, centred with whitish lanceolate marks. UNDER-SIDE dull ochreous, with brown margins; band of lanceolate marks as above, but less suffused with brown. Expanse 3 inches.

a. ♀ *var.* Borneo. Presented by Hugh Low, Esq.

387. *ADOLIAS JAHNU, Moore.*

Adolias Jahnu, n. sp.—Female: UPPER-SIDE obscure brown, glossed with green: *fore-wing* with two indistinct black zigzag lines across the disc, tinged with white anteriorly; markings at base of wing large and indistinct: *hind-wing* with two indistinct black zigzag lines across the disc, also indistinct black basal marks. UNDER-SIDE ochreous brown, with transverse zigzag black lines and

basal marks as above; apex of fore-wing with a white spot and a blackish patch; exterior margin dusky; basal half of hind-wing, and along the outer zigzag line, with a bluish-grey tinge. Anterior wings falcate; expanse $3\frac{1}{4}$ inches.

a. ♀. Darjeeling. From Messrs. Schlagintweit's Collection.

388. *ADOLIAS SIKANDI, Moore.*

Adolias Sikandi, n. sp.—Female: UPPER-SIDE obscure glossy pale greenish-brown: *fore-wing* with the disc from middle of anterior to middle of posterior margin white, sharply defined inwardly from the basal half by an irregular zigzag division; also parallel ill-defined brown and white spots; two large black marks within discoidal cell: *hind-wing* with narrow curved white band, tapering from middle of anterior to near middle of abdominal margin, and sharply defined inwardly from the basal half; a submarginal row of deep-brown lunular spots; blackish marks within discoidal-cell. UNDER-SIDE ashy-grey, tinged with blue, basal half dark, exterior half very pale; markings as above; on hind-wing a small red spot in centre of anterior basal mark. Shape of wings as in *Ad. Evelina;* expanse $3\frac{1}{2}$ inches.

a. ♀. Java. From Dr. Horsfield's Collection.

389. *ADOLIAS EVELINA, Stoll Sp.*

♂ Papilio Evelina, *Stoll, Suppl. Cramer's Pap. Exot. t.* 28, *f.* 2, 2*B* (1791).

Adolias Evelina, *Boisduval. E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 104. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 291, *n.* 7.

Nymphalis Evelina, *Godart, Enc. Méth.* IX. *p.* 401.

Adolias Derma, *Kollar, in Hügel's Kaschmir,* IV. *pt.* II. *p.* 436 (1844). *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 292, *n.* 23.

a. b. c. d. ♂ ♀. Assam. From Griffith's Collection.

390. *ADOLIAS COCYTINA, Horsfield Sp.*

♂ Aconthea Cocytina, *Horsfield, Zool. Journ.* V. *p.* 67, *t.* 4, *f.* 3, 3*a* (1830).

Adolias Cocytina, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 291, *n.* 3.

♂ Papilio Cocyta, *Fabricius*,* *Ent. Syst.* III. *pt.* I. *p.* 127 (1793). *Jones, Icon.* IV. *t.* 64, *f.* 2.

Nymphalis Cocyta, *Godart, Enc. Méth.* IX. *p.* 382.

Adolias Cocyta, *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 104.

Adolias Godartii, *G. R. Gray, Cat. Lep. Ins. Nepal, p.* 14, *t.* 12, *f.* 2 (1833).

a. ♂. Borneo. Presented by Hugh Low, Esq.

b. c. d. ♂. Borneo. Presented by Edwin Shepherd, Esq., 1857.

391. *ADOLIAS COCYTUS, Fabricius Sp.*

Papilio Cocytus, *Fabricius, Mant. Ins.* II. *p.* 29 (1787); *Ent. Syst.* III. *pt.* I. *p.* 55.

Adolias Cocytus, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 291, *n.* 9.

Nymphalis Cocytus, *Godart, Enc. Méth.* IX. *p.* 368.

Adolias Sidera, *Boisduval, MS.*

a. b. c. ♂ ♀. N. India. Presented by Colonel Sykes.

d. e. ♂. Canara, S. India. Presented by S. N. Ward, Esq.

392. *ADOLIAS ADIMA, Moore.*

Adolias Adima, n. sp.—Male: UPPER-SIDE yellowish olive-brown, with two indistinct zigzag lines crossing the disc of both wings, and markings about the base of the wings blackish. UNDER-SIDE pale ferruginous, palest at the base of fore-wings, with inner row of lunulated marks and outer row of spots crossing the disc of both wings, and markings at the base of the wings, black, the spots being deepest from anal angle, where they are margined with bluish-white; abdominal margin broadly, and about anal angle somewhat, green. Expanse 2½ inches.

a. ♂. Assam. From Griffith's Collection.

The male of *Adolias Adima* may at once be distinguished from *Ad. Apiades* by its plain brown upper-side.

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* But not *Pap. Cocytus*, Fabricius.

393. *ADOLIAS APIADES, Menetries.*

♂ Adolias Apiades, *Menetries, Cat. Lep. Mus. Imp. Acad. of Sci. St. Petersburg, pt.* II. *t.* IX. *f.* 4 (*ined.*).

a. b. c. d. e. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

394. *ADOLIAS SANCARA, Moore.*

Adolias Sancara, n. sp.—Male: UPPER-SIDE brown: *fore-wing* with an outward oblique white band from middle of costal margin to near posterior margin above the angle; also two small white spots near the apex; an indistinct blackish transverse band from near apex of fore-wing to abdominal margin; also an indistinct narrow submarginal blackish band on the hind-wing; black marks within the discoidal-cell. UNDER-SIDE greyish-brown, greyer at the base and along exterior margins; marked as above. Female darker, and marked as in male. Expanse of male 3¼, female, 3½ inches.

a. ♂. N. India. Presented by Colonel Sykes.

b. ♀. Darjeeling. From Messrs. Schlagintweit's Collection.

395. *ADOLIAS IVA, Moore.*

Adolias Iva, n. sp.—Male: UPPER-SIDE very dark olive-green: *fore-wing* with oblique row of large, long greenish-white spots from middle of costal margin to near posterior angle, beneath which is a small narrow geminated spot near the middle of the posterior margin; also two small spots obliquely near the apex, and a small whitish patch at the posterior angle: *hind-wing* with a row of broadly-separated small round greenish-white spots curving from middle of costal margin to middle of the wing; also black marks within discoidal-cell. UNDER-SIDE deep greenish-grey, dusky about the anterior half, and blackish along the posterior margin; markings as above, but the spots on the hind-wing extending nearly to abdominal margin. Shape of wings as in *Adolias Epiona;* expanse 4 inches.

a. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

Adolias Iva may be known from *Adolias Epiona* by its very dark upper-side, and by the oblique band being composed of much longer spots, and by its deep greyish-green under-side.

396. *ADOLIAS EPIONA, G. R. Gray Sp.*

Aconthea Epiona, *G. R. Gray, List Lep. Nepal, p.* 13 (1833).

Adolias Doubledayii, *Boisduval, MS. E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 104 (1844). *G. R. Gray, List Lep. Nepal, p.* 13, *t.* 13. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 291, *n.* 15.

Adolias Patala, *Kollar, in Hügel's Kaschmir*, IV. *pt.* II. *p.* 435 (1844).

a. b. c. d. e. ♂ ♀. N. India. Presented by Colonel Buckley.

397. *ADOLIAS DURGA, Moore.*

Adolias Durga, n. sp.—UPPER-SIDE dark olive-green, with a black marginal and submarginal band; a broad transverse band of irregular-shaped white spots crossing from middle of costal margin of fore-wing to beyond the middle of the hind-wing, near the anal angle, being margined exteriorly with blue from the fore-wing on its lower half to anal angle; the narrow space between marginal and submarginal bands also bluish; two small rounded white spots near the apex of fore-wing; marks within discoidal-cells black. UNDER-SIDE from inner margin of band to base greenish-grey, from its outer margin to extremity of wing greenish, with band and apical spots as above; a row of blackish marks from apical spots to posterior angle, which is whitish; also an indistinct dusky submarginal row on the hind-wing, and at the anal angle two patches of black; marks at the base of wings black; ciliæ between the indentations on the upper and under-side white. Sexes alike. Expanse 4 inches.

a. b. ♂ ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

398. *ADOLIAS TEUTA, E. Doubleday.*

♂ Adolias Teuta, *E. Doubleday, MS. Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 291, *n.* 5, *t.* 44, *f.* 2 (1850).

a. b. c. d. ♂ ♀. Silhet. Presented by Colonel Buckley.

e. ♂. Java. From Dr. Horsfield's Collection.

399. *ADOLIAS FRANCIÆ, G. R. Gray.*

Adolias Franciæ, *G. R. Gray, List Lep. of Nepal, p.* 12, *t.* 14 (1833). *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 104. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 291, *n.* 14.

a. b. ♂. Darjeeling. From Pearson's Collection.

c. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

d. ♂. Darjeeling. From Messrs. Schlagintweit's Collection.

400. *ADOLIAS CORESIA, Hübner Sp.*

♀ Hypolimnas Coresia, *Hübner, Samml. Exot. Schmett. Band* II. *t.* (1806–27).

Adolias Coresia, *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 105.

♂ Aconthea Apaturina, *Horsfield, Zool. Journ.* V. *p.* 68, *t.* 4, *f.* 1, 1*a* (1830).

Adolias Apaturina, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 291, *n.* 4.

a. b. ♂ (*A. Apaturina*; Horsf.) Java. Presented by Dr. Horsfield.

c. ♂. Java. From Mr. Argent's Collection.

401. *ADOLIAS NICEA, G. R. Gray.*

Aconthea Nicea, *G. R. Gray, Lep. Ins. of Nepal, p.* 13, *t.* 12, *f.* 1 (1833).

Adolias Nicea, *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 105. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 291, *n.* 2.

a. b. ♂ ♀. N. India. Presented by Colonel Sykes.

c. ♀. N. India. From T. Tatum, Esq.

d. e. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

402. *ADOLIAS NESIMACHUS, Boisduval.*

Adolias Nesimachus, *Boisduval, in Cuvier's Règ. Anim. edit. Crochard, Ins. t.* 139, *f.* 1 ( ). *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 105. *Westwood,*

in Doubleday and Hewitson's Diurnal Lep. p. 291, *n.* 12.

Argynnis Hippomenes, *Kaden, in Herr Schæffer's Lep. Exot. ser.* II. *fasc.* 1 et 2, *fig.* 11, 12 (1853).

a. b. ♂. Assam. From Griffith's Collection.

c. d. ♂ ♀. N. India. Presented by Colonel Buckley.

e. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

403. *ADOLIAS DIRTEA, Fabricius Sp.*

♀ Papilio Dirtea, *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 59 (1793). *Jones, Icon.* IV. *t.* 65, *f.* 1.

Adolias Dirtea, *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 104. *G. R. Gray, List Lep. Nepal, p.* 12, *t.* 10, *f.* 1, ♀, 2, ♂. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 291, *n.* 17, *t.* 44, *f.* 1, ♀.

Aconthea Boisduvalii, *G. R. Gray, MS. Boisduval, Spéc. Gén. Lép.* I. *t.* 8, *f.* 2.

a. ♂. Assam. From Griffith's Collection.

b. ♂. N. India. From T. Tatum, Esq.

c. ♀. N. India. Presented by the Trustees of the British Museum.

d. ♀. Pinang. Presented by Dr. Cantor.

e. f. ♂ ♀. Borneo. Presented by Hugh Low, Esq.

g. ♀. Borneo. Presented by Edwin Shepherd, Esq.

404. *ADOLIAS SIVA, Westwood.*

♀ Aconthea Doubledayi, *Westwood, Cabinet Oriental Ent. p.* 76, *t.* 37, *f.* 4 (1847).

Adolias Siva, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 291, *n.* 18 (1850).

a. ♂. Darjeeling. From Messrs. Schlagintweit's Collection.

Genus EURIPUS, *E. Doubleday.*

Euripus, *E. Doubleday, MS. Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 293 (1850).

405. *EURIPUS HALITHERSES, E. Doubleday.*

Euripus Halitherses, *E. Doubleday, MS. Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 293, *t.* 51, *f.* 2 (1850).

a. ♂. Darjeeling. From Pearson's Collection.

b. c. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

d. e. f. ♂. Darjeeling. From Messrs. Schlagintweit's Collection.

406. *EURIPUS HALLIROTHIUS, Westwood.*

Euripus Hallirothius, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 293 (1850).

a. ♂. N. India. Presented by Colonel Buckley.

b. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

Remark.—The females of both these species are at present unknown.

Genus HERONA, *E. Doubleday.*

Herona, *E. Doubleday, MS. Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 293 (1850).

407. *HERONA MARATHUS, E. Doubleday.*

Herona Marathus, *E. Doubleday, MS. Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 294, *t.* 51, *f.* 3 (1850).

a. ♂. Assam. Presented by Colonel Hearsey.

b. ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

Genus CASTALIA, *Boisduval.*

Castalia, *Boisduval, MS.*

408. *CASTALIA DICHROA, Kollar Sp.*

Limenitis dichroa, *Kollar, in Hügel's Kaschmir, IV. pt.* II. *p.* 429, *t.* 8, *f.* 1, 2 (1844).

Apatura dichroa, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 305, *n.* 21.

Castalia Nyctis, *Boisduval, MS.*

a. ♂. Simla. Presented by the Trustees of the British Museum.

b. ♂. N. India. Presented by Colonel Buckley.

Castalia dichroa may be distinguished from *Castalia Chandra* by the exterior margin of the fore-wings being much less deflexed in the middle, and by having all the markings of the upper-side of the fore-wing orange-colour, and being without the black spots in the discoidal-cell of the hind-wing, and on the under-side by the pearly-white on the hind-wings. Expanse of wings 2¾ inches.

409. *CASTALIA CHANDRA, Moore* (*Plate* VI*a*, *fig.* 4).

Castalia Chandra, n. sp.—UPPER-SIDE: *fore-wings* jet-black, with a greenish gloss at the apex; a transverse curved row of four orange-coloured spots from costal margin one-fourth of the wing to middle of posterior margin; a straight row of five *white* spots from middle of costal margin to near posterior angle; also two small and one minute *white* spot near the apex; a marginal and submarginal row of spots, those at the apex whitish, the marginal ill-defined, the submarginal rather large and clearly defined, and those to the posterior angle small and bluish: *hind-wing* clear orange-colour, with rather broad black posterior margin, centred with a marginal row of small whitish spots; also a parallel inner zigzag black band from anal angle to anterior angle, and extending along the costal margin, the black extending along the veins upwards and downwards to marginal band; a small black spot nearly at the base of and within discoidal-cell, and another in the centre of the wing; on the thickest part of the inner band near anal angle is a small central bluish-white spot; abdominal margin broad dusky-white; body black; frontal tuft and neck spotted with white. UNDER-SIDE as above, but on the *fore-wing* the colours are brighter; the costal margin greenish-white, and there is also a whitish triangular spot at base of discoidal-cell: on the *hind-wing* along the marginal band is a row of bluish-white lunated spots; the spot on the thickest part of the inner band is large, as is also the central black spot within the discoidal-cell; at the base of the wing are a number of greenish-white spots; all the veins are broadly lined with black; body and abdomen on the sides spotted with white. Expanse of wings 3 inches.

a. b. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

c. d. e. ♂. Darjeeling. From Messrs. Schlagintweit's Collection.

Genus nov. DILIPA, *Moore.*

This genus differs from the typical *Apatura* in having the discoidal cell closed in all the wings by a very delicate lower disco-cellular vein; the palpi and antennæ are, however, like those of *Apatura.*

410. *DILIPA MORGIANA, Westwood Sp.* (*Plate* VI*a, fig.* 5, ♂ ♀).

♂ Apatura Morgiana, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 305, *n.* 22 (1850).

a. ♂ (type). N. India. Presented by Colonel Buckley.

The female of *Dilipa Morgiana* is in the British Museum Collection, and differs from the male in being somewhat larger, and having all the spots of the fore-wing white, the broad band across the hind-wing being also white. Under-side as in male, but the spots white.

Genus APATURA, *Fabricius.*

Apatura, *Fabricius, Syst. Gloss.* (*Illiger's Mag.* VI. *p.* 280, 1807). *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 302.

Catargyria, Doxocopa, *Hübner, Verz. bek. Schmett.* (1816).

Chlorippe, *Boisduval, MS. E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 108 (1844).

Nymphalis, *Blanchard.*

411. *APATURA AMBICA, Kollar.*

♂ Apatura Ambica, *Kollar, in Hügel's Kaschmir,* IV. *pt.* II. *p.* 431, *t.* 8, *f.* 3, 4 (1844).

♂ Apatura Namouna, *E. Doubleday, Ann. Nat. Hist.* XVI. *p.* 178 (1845); *List Lep. Brit. Mus. pt.* I. *App. p.* 28. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 305, *n.* 18.

a. b. ♂. N. India. Presented by Colonel Bucklcy.

c. ♂. Darjeeling. From Pearson's Collection.

d. ♂. N. India. Presented by Lieutenant Hugo James.

e. ♂. Darjeeling. From Messrs. Schlagintweit's Collection.

A female of *Apat. Ambica* is in the Collection at the British Museum, and is distinguished from the male in being paler, and having none of that beautiful gloss on the upper-side; the spots are yellowish-white, and those along the exterior margins are larger.

412. *APATURA PARVATA, Moore* (*Plate* VI*a*, *fig.* 6).

Apatura Parvata, n. sp.—Male: UPPER-SIDE dark ferruginous-brown, darkest at the base, and bright about discoidal cell and along the exterior margin: *fore-wing* with blackish marks in discoidal cell; marginal and submarginal lines, and indistinct narrow interrupted transverse series of pale ferruginous spots from middle of anterior to posterior margin; also a series of five small white spots from anterior margin near the apex, below which is an indistinct black spot: *hind-wing* with narrow pale ferruginous band from middle of anterior margin to near middle of abdominal margin; also, near anal angle, a black spot encircled with ferruginous; abdominal margin dull ferruginous-brown. UNDER-SIDE ferruginous, brightest on the fore-wings; markings disposed as above: *fore-wing* with the transverse series of spots distinct and white, being bounded inwardly with blackish patches; near the apex and posterior angle are some patches of black; the black spot on disc large; also a black patch on posterior base of the wing; marginal line ashy: *hind-wing* ferruginous-brown across the disc, with band as above white; on the lower part of the disc is a small black spot centred with blue and encircled with ferruginous; a marginal line and submarginal zigzag marks ashy. Expanse of wings 2 to $2\frac{1}{8}$ inches.

a. b. ♂. N. India. Purchased.

413. *APATURA PARISATIS, Westwood.*

Apatura Parisatis, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 305, *n.* 20 (1850).

a. ♂. Assam. From Griffith's Collection.

b. ♀. Canara, S. India. Presented by S. N. Ward, Esq.

c. d. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

e. f. ♂ ♀. Darjeeling. From Messrs. Schlagintweit's Collection.

g. ♂. Java. From Mr. Argent's Collection.

Apatura Parisatis may be distinguished by its small size, and by the uniform jet-black colour of the upper-side of the wings; its under-side being varied with rich red-brown and chestnut, and with a slight whitish macular fascia across the middle of the wings, and a minute eye-spot near the anal angle. The female is dull-ferruginous; both upper and under-side with markings nearly similar to those of the under-side of the male, and with a curved row of small white dots near the apex of the fore-wings. Expanse of wings $1\frac{3}{4}$ to nearly 2 inches.

414. *APATURA NAKULA, Moore.*

Apatura Nakula, n. sp.—Female: UPPER-SIDE dull pale reddish-brown, darkest at the base: *fore-wing* with a broad transverse *whitish* band from anterior to posterior margin; two blackish reniform marks and a dot within discoidal cell; a row of five small white dots from anterior margin near the apex, the three first being encircled with black, and a small sixth spot wholly black; a narrow marginal line blackish, and submarginal line dark brown: *hind-wing* with a broad nearly straight *white* band from anterior margin to near anal angle, where it is narrowest; an oval and two small black marks within discoidal cell; a narrow dark black marginal line; a submarginal row of dark-brown marks, bounded inwardly by a row of zigzag white marks; near the anal angle, between the middle and lower median veins, is a small black spot encircled with pale red; abdominal margin pale. UNDER-SIDE very pale ochreous-brown, with markings as above, but less distinct; the black spot on the fore-wing is rather large, but on the hind-wing this spot is very small. Expanse of wings $1\frac{5}{10}$ inches.

a. ♀. Java. From Dr. Horsfield's Collection.

Genus SYMPHÆDRA, *Hübner.*

SYMPHÆDRA, *Hübner, Verz. bek. Schmett.* (1816).

SYMPHEDRA, *E. Doubleday.*

LEXIAS, *Boisduval, Voy. de l'Astrolabe, Ins. pt.* I. *p.* 125 (1832).

415. *SYMPHÆDRA THYELIA, Fabricius Sp.*

Papilio Thyelia, *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 142 (1793). *Jones, Icon.* V. *t.* 83, *f.* 2.

Symphædra Thyelia, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 295, *t.* 42, *f.* 6.

Argynnis Thyelia, *Godart, Enc. Méth.* IX. *p.* 257. *Donovan, Ins. of India, t.* 31, *f.* 3.

Symphedra Thyelia, *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 105.

Symphædra Alcandra, *Hübner, Zuträge, pt.* I. *p.* 7, *f.* 1, 2, et *Verz. bek. Schmett. n.* 346.

a. b. c. ♂ ♀. N. India. From the Asiatic Society of Calcutta.

d. ♂. S. India. Presented by S. N. Ward, Esq.

Genus NYMPHALIS.

NYMPHALIS, *Latreille, Hist. Nat. des Ins.* XIV. *p.* (1805). *Godart, Enc. Méth.* IX. *p.* 329. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 306 (1850).

CHARAXES, *Ochsenheimer, Schmett. von Eur.* IV. (1816). *Boisduval. E. Doubleday.*

IASIA, *Swainson, Zool. Ill. 2nd ser. t.* 90 (1831–2).

PAPHIA, sect. I., *Fabricius, Syst. Gloss.* (*Illiger's Mag.* VI. *p.* 282, 1807). *Horsfield* (*part*).

ERIBOEA *et* TIGRIDIA, *pt. Hübner, Verz. bek. Schmett.* (1816).

416. *NYMPHALIS FABIUS, Fabricius Sp.*

Papilio Fabius, *Fabricius, Spec. Ins.* II. *p.* 12 (1781); *Ent. Syst.* III. *pt.* I. *p.* 64.

Nymphalis Fabius, *Godart, Enc. Méth.* IX. *p.* 353. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 309, *n.* 28.

Papilio Euphanes, *Esper, Ausl. Schmett.* I. *p.* 238, *t.* 59, *f.* 1 (1785).

Charaxes Fabius, *Boisduval. E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 110.

a. b. c. ♂ ♀. N. India. Presented by Colonel Buckley.

d. ♂. N. India. Presented by Colonel Hearsey.

Colonel Hearsey informs us that "he usually captured this species upon wounded apple-trees; the butterflies frequenting the wounds to suck up the fluids which were discharged therefrom."—(Westwood's Oriental Ent.)

Captain Mortimer J. Slater, in his MS. Notes, p. 41, states: "At Dinapore, I generally found *Charaxes Fabius* near, or on, pomegranate-trees. Flies rapidly. Uncommon."

417. *NYMPHALIS ATHAMAS, Drury Sp.*

Papilio Athamas, *Drury, Ill.* I. *t.* 2, *f.* 3, 4 (1770). *Cramer, Pap. Exot.* I. *t.* 89, *f. C.D.*

Nymphalis Athamas, *Godart, Enc. Méth.* IX. *p.* 353. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 309, *n.* 29.

Iasia Athama, *Swainson, Zool. Ill. 2nd ser. t.* 90.

Paphia Athamas, *Horsfield, Cat. Lep. Mus. E.I.C. t.* 8, *f.* 7, 7*a*.

Charaxes Athamas, *Boisduval. E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 109.

Papilio Pyrrhus, *Donovan, Ins. of India, t.* 29, *f.* 3 (1800–3).

Eriboea Athamis, *Hübner, Verz. bek. Schmett. n.* 430 (1816).

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. f. ♂ ♀. N. India. Presented by Colonel Sykes.

g. h. ♂ ♀. N. India. Presented by Colonel Buckley.

The larva and pupa of *Nymphalis Athamas* are figured on Plate VI., fig. 3, 3*a*, from Java, discovered by Dr. Horsfield.

418. *NYMPHALIS SCHREIBERI, Godart.*

Nymphalis Schreiberi, *Godart, Enc. Méth.* IX. *App. p.* 825 (1819). *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 309, *n.* 30.

Paphia Schreibers, *Horsfield, Cat. Lep. Mus. E.I.C. t.* 6, *f.* 3, 3*a*.

Charaxes Schreiberi, *Boisduval. E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 110.

a. ♀. Java. From Dr. Horsfield's Collection.

419. *NYMPHALIS DELPHIS, E. Doubleday Sp.*

Charaxes Delphis, *E. Doubleday, Annals Soc. Ent. France* (1843), *p.* 217, *t.* 7.

Nymphalis Delphis, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 309, *n.* 33.

a. ♂. Silhet. Presented by the Trustees of the British Museum.

420. *NYMPHALIS EUDAMIPPOS, E. Doubleday Sp.*

Charaxes Eudamippus, *E. Doubleday, Annals Soc. Ent. France* (1843), *p.* 218, *t.* 8.

Nymphalis Eudamippus, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 309, *n.* 32.

a. b. c. ♂ ♀. Darjeeling. From Pearson's Collection.

d. e. f. ♂ ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

421. *NYMPHALIS DOLON, Westwood.*

Charaxes Dolon, *Westwood, Cabinet Orient. Ent. p.* 55, *t.* 27, *f.* 2, 3 (1847).

Nymphalis Dolon, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 309, *n.* 34.

a. b. c. d. ♂ ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

422. *NYMPHALIS MARMAX, Westwood.*

♂ ♀ Charaxes Marmax, *Westwood, Cabinet Orient. Ent. p.* 43, *t.* 21, *f.* 3, 4, 5 (1847).

Nymphalis Marmax, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 309, *n.* 37.

a. ♂. Darjeeling. From Pearson's Collection.

b. ♂. Cherra Poonjee. From Colonel Buckley's Collection.

c. d. e. f. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

423. *NYMPHALIS BERNARDUS, Fabricius Sp.*

Papilio Bernardus, *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 71 (1793). *Donovan, Ins. of China, t.* 34.

Papilio Bernarda, *Jones, Icones*, IV. *t.* 65, *f.* 2 ( ).
Nymphalis Bernardus, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 309, *n.* 35.
Satyrus Bernardus, *Godart, Enc. Méth.* IX. *p.* 477.
Charaxes Bernardus, *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 112. *Kollar, in Hügel's Kaschmir*, IV. *pt.* II. *p.* 434, *t.* 11, *f.* 1, 2.
Papilio Polyxena, *Cramer, Pap. Exot.* I. *t.* 54, *f. A.B.* (1779).
Nymphalis Polyxo, *Godart, Enc. Méth.* IX. *p.* 399 (1819).
Doxocopa Epilais, *Hübner, Verz. bek. Schmett. p.* 464 (1816).

a. b. c. ♂ ♀. Silhet. From Colonel Buckley's Collection.

d. e. f. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

Captain Mortimer J. Slater, in his MS. Notes, p. 144, informs us that "*Charaxes Bernardus* flies along about four feet from the ground, sometimes rising to ten feet or so; and in this manner traverses the open ground at a fast flight, seldom settling or pausing; and is consequently very difficult to capture, much less so in perfect condition."

424. *NYMPHALIS BAYA, Moore.*

Nymphalis Baya, n. sp.—Allied to *Nymph. Psaphon*, Westwood, Cabinet Orient. Ent. t. 21, f. 1, 2, from Ceylon, but differs in the male in having the black exterior border of the *fore-wing* much narrower, it not extending to the middle of the posterior margin, as in that species, but is confined to the angle: on the *hind-wing*, the apical patch is also smaller, and continued in a series of six white centred spots to anal angle; a small blackish spot at extremity of the discoidal-cell. UNDER-SIDE glossy greenish buffy-brown. Female paler above: *fore-wing* with a broad central yellowish band; a small round yellowish spot near the apex; a patch of black at extremity of discoidal-cell, and narrow zigzag line bordering the black band: *hind-wing* with the central upper portion of disc yellowish; submarginal row of spots clearly defined, and all centred with clear white. Under-side more variegated than the male, and much paler.

Tails two, short in the male; *both* long in the female. Expanse of male 2¾ inches, female rather more than 3 inches.

a. b. c. ♂ ♀ (type). Java. From Dr. Horsfield's Collection.

d. e. ♂. N. India. From Colonel Buckley's Collection.

The larva, pupa, and imago of *Nymph. Baya* are figured among the original drawings made by Mrs. Hamilton in Northern India, which are now in the possession of the Entomological Society of London. A copy of these will be drawn on a subsequent Plate of this Catalogue. Mrs. Hamilton's Notes state that the "larva was found on the 9th November, it changing to a pupa on the 20th, and the imago emerging on the 30th."

Genus KALLIMA, *E. Doubleday.*

KALLIMA, *E. Doubleday, MS. Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 324 (1850).

PAPHIA (*part*), *Horsfield. Hügel.*

AMATHUSIA (*part*), *Boisduval. Westwood.*

ZARETIS (*part*), *Hübner.*

425. *KALLIMA PARALEKTA, Horsfield Sp.*

♂ Paphia Paralekta, *Horsfield, Cat. Lep. Mus. E.I.C. t.* 6, *f.* 4 (1829).

♀ Kallima Paralekta, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 325, *n.* 1, *t.* 52, *f.* 3.

a. b. ♂ ♀. Java. From Dr. Horsfield's Collection.

Kallima Paralekta.—Female: *fore-wings* hooked at the tip; the broad oblique fascia white; base of fore-wing and whole of hind-wing ferruginous-brown.

426. *KALLIMA INACHIS, Boisduval Sp.*

Amathusia Inachis, *Boisduval, in Crochard's edit. of Cuv. Règ. Anim. Ins. t.* 139, *f.* 3 ( ). *Herrick-Schæffer, Lep. Exot.* II. *f.* 7, 8.

Kallima Inachis, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 325, *n.* 2.

Paphia Hügelii, *Kollar, in Hügel's Kaschmir,* IV. *pt.* II. *p.* 432, *t.* 9 (1844).

Paphia Paralekta, *apud Royle, Ill. of Himal. Bot. t.* 10, *f.* 3*a*, 3*b*.

Amathusia Paralekta, *apud E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 114.

a. b. ♂ ♀. Darjeeling. From Pearson's Collection.

c. d. ♂ ♀. N. India. Presented by Colonel Buckley.

e. f. g. ♂ ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

427. *KALLIMA BISALTIDE, Cramer Sp.*

Papilio Bisaltide, *Cramer, Pap. Exot.* II. *t.* 102, *f. C.D.* (1779). *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 74.

Kallima Bisaltide, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 325, *n.* 8.

Apatura Bisaltide, *Hübner, Verz. bek. Schmett. n.* 294.

Nymphalis Bisaltide, *Godart, Enc. Méth.* IX. *p.* 370.

Amathusia Bisaltide, *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 114.

Papilio Polibetes, *Cramer, Pap. Exot.* III. *t.* 234, *f. D.E.* (1782).

Zaretis Polibetes, *Hübner, Verz. bek. Schmett. n.* 453.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. ♂. Pinang. Presented by Dr. Cantor.

f. g. ♂ ♀. N. India. Presented by Colonel Buckley.

h. i. ♂ ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

Genus AMATHUSIA, *Fabricius.*

AMATHUSIA, *Fabricius, Syst. Gloss.* (*Illiger's Mag.* VI. *p.* 279, 1807). *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 326.

MŒRA (*part*), *Hübner, Verz. bek. Schmett.* (1816).

THORÆSSA, *Boisduval, MS.*

428. *AMATHUSIA PHIDIPPUS, Linnæus Sp.*

Papilio Phidippus, *Linnæus, Syst. Nat.* II. *p.* 752 (1767). *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 71. *Cramer, Pap. Exot.* I. *t.* 69, *f. A.B.*

Amathusia Phidippus, *Fabricius, Syst. Gloss.* (*Illiger's Mag.* VI. *p.* 279, 1807). *Horsfield, Cat. Lep. Mus. E.I.C. t.* 7, *f.* 10. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 114. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 327, *n.* 1, *t.* 54*a*, *f.* 2.

Morpho Phidippus, *Godart, Enc. Méth.* IX. *p.* 439.

Thoræssa Phidippus, *Boisduval, MS.*

Mœra Phidippe, *Hübner, Verz. bek. Schmett. n.* 477.

Var. Amathusia Patalena, *Westwood, Cab. Orient. Ent. p.* 40, *t.* 19, *f.* 1 (1847).

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. f. ♂ ♀. Pinang. Presented by Dr. Cantor.

The larva and pupa of *Amathusia Phidippus* are figured on Plate VI., fig. 4, 4*a*, from Java, where it "feeds on the young leaves of *Coccos nucifera*, from December to April. Common."—(Horsfield, MS.)

429. *AMATHUSIA AMYTHAON, E. Doubleday.*

Amathusia Amythaon, *E. Doubleday, Ann. Nat. Hist.* XIX. *p.* 175 (1847); *List Lep. Brit. Mus. App. p.* 29. *Westwood, Cab. of Orient. Ent. p.* 29, *t.* 19, *f.* 1, 2, 3; id. *in Doubleday and Hewitson's Diurnal Lep. p.* 327, *n.* 2.

Thoræssa Thessalus, *Boisduval, MS.*

a. ♀. N. India. Donor unknown.

Genus ZEUXIDIA, *Hübner.*

Zeuxidia, *Hübner, Samml. Exot. Schmett.* II. (1806–27). *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 327.

Aglaura, *Boisduval, MS. Herrich-Schæffer.*

430. *ZEUXIDIA LUXERI, Hübner.*

Zeuxidia Luxerii, *Hübner, Samml. Exot. Schmett. Band* II. *t.* (1806–27). *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 114. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 329.

a. ♂. Java. From Dr. Horsfield's Collection.

Genus DISCOPHORA, *Boisduval.*

DISCOPHORA, *Boisduval, Spéc. Gén. Lép. t.* 12, *f.* 3 (1836). *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 329.
MŒRA, ZERYNTHIA (*part*), *Hübner.*
MORPHO (*part*), *Horsfield.*

431. *DISCOPHORA TULLIA, Cramer Sp.*

♀ Papilio Tullia, *Cramer, Pap. Exot.* I. *t.* 81, *f. A. B.* (1779). *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 98.
Discophora Tullia, *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 114. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 331, *n.* 1.
Morpho Tullia, *Godart, Enc. Méth.* IX. *p.* 446.
Mœra Tullia, *Hübner, Verz. bek. Schmett. n.* 479.

a. b. c. d. ♂ ♀. N. India. Presented by Colonel Buckley.
e. ♀. N. India. Presented by Colonel Sykes.
f. g. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

The transformations of *Discophora Tullia* are figured among the original drawings of A. Grote, Esq., of Calcutta, and are copied on Plate XII., fig. 15, 15*a*. It "feeds on *Bambusa.*"

432. *DISCOPHORA CELINDE, Stoll Sp.*

Papilio Celinde, *Stoll, Suppl. Cramer's Pap. Exot.* V. *t.* 37, *f.* 1, 1*a* (1791).
Discophora Celinde, *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 114. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 331, *n.* 2. *Herr. Schæffer, Lep. Exot.* II. *pt.* 1 *and* 2, *f.* 5, 6 (1853).
Morpho Celinde, *Godart, Enc. Méth.* IX. *p.* 446. *Horsfield, Cat. Lep. Mus. E. I. C. t.* 6, *f.* 6, *t.* 7, *f.* 11.
Papilio Menetho, *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 83 (1793). *Jones, Icon.* V. *t.* 61. *Donovan, Ins. of India, t.* 30, *f.* 1, ♀.
Morpho Menetho, *Godart, Enc. Méth.* IX. *p.* 446.
Var. ♀ ? Discophora Timora, *E. Doubleday, Westwood and Hewitson's Diurnal Lep. t.* 54, *f.* 2.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

The larva and pupa of *Discophora Celinde* are figured on Plate VI., fig. 5, 5*a*, from Java, where "it feeds on the young leaves of *Coccos nucifera*, from December to January. Common."—(Horsfield, MS.)

Genus ENISPE, *E. Doubleday.*

ENISPE, *E. Doubleday, MS. Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 292 (1850).

433. *ENISPE EUTHYMIUS, E. Doubleday.*

Adolias Euthymius, *E. Doubleday, Ann. Nat. Hist.* XVI. *p.* 179 (1845); *List Lep. Brit. Mus. pt.* I. *App. p.* 27.

Enispe Euthymius, *E. Doubleday. Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 292, *t.* 40, *f.* 2.

a. b. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

434. *ENISPE CYCNUS, Westwood.*

♂ Enispe Cycnus, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 330 (1851).

a. ♂. Darjeeling. From Pearson's Collection.

b. ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

Enispe Cycnus.—Male: UPPER-SIDE blackish-brown; base and exterior margins paler: *fore-wing* with an oblique band from middle of anterior margin terminating in a transverse series of lunular spots, and a parallel outer row of four quadrate spots, lilac-white: *hind-wing* with very indistinct marginal and submarginal pale spots. UNDER-SIDE with a transverse brown dentate band from middle of costal margin to anal angle; the base of the wings orange-yellow, with narrow irregular transverse markings; exterior half of wings light brown, with indistinct transverse lines: *hind-wing* with a small anterior black dot and a posterior white dot. Female: UPPER-SIDE, *fore-wing* with the base obliquely dull chocolate-brown, the rest brownish-black; the lilac-white oblique band and spots as in male,

but larger, with two inner rows and terminal spots ochreous-yellow: *hind-wing* with the basal half to abdominal angle dull chocolate-brown, with a marginal, submarginal, an inner third and a short fourth row of ochreous-yellow spots, the spaces between blackish. UNDER-SIDE yellow throughout, with a slight greenish tinge; transverse dentate band and markings as in male. Expanse of male $3\frac{1}{8}$, female $3\frac{5}{8}$ inches.

435. *ENISPE LEPIDA, Moore.*

Enispe Lepida, n. sp. — Female: UPPER-SIDE ochreous-brown, more dusky about the anterior half: *fore-wing* with broad oblique transverse band from middle of anterior margin, and inner row of spots, lilac-white; an outer row of submarginal and indistinct marginal spots ochreous: *hind-wing* with exterior margin and three inner rows of spots ochreous. UNDER-SIDE pale dull dirty ochreous, with ill-defined transverse dentate line and markings about the base brown; indistinct rows of paler spots; hind-wing with an anterior brown spot centred with a white dot, and half margined with black; a posterior small white spot encircled with brown. Expanse 4 inches.

a. ♀. Canara, S. India. Presented by S. N. Ward, Esq.

Genus CLEROME, *Boisduval.*

CLEROME, *Boisduval, MS. Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 332 (1851).

FAUNIS (*part*), *Hübner.*

436. *CLEROME ARCESILAUS, Fabricius Sp.*

Papilio Arcesilaus, *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 153 (1793). *Donovan, Ins. of India, t.* 30, *f.* 2.

Clerome Arcesilaus, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 334, *t.* 54, *f.* 5.

Satyrus Arcesilaus, *Godart, Enc. Méth.* IX. *p.* 497.

Faunis canens, *Hübner, Samml. Exot. Schmett. Band* II. *tab.* (1806–27).

Morpho Leonteus, *Zinken-Sommer, Nova Acta Acad. Nat. Cur.* XV. *p.* 170, *t.* 16, *f.* 14, 15.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

437. *CLEROME PHAON, Erichson Sp.*

Drusilla Phaon, *Erichson, in Nova Acta Acad. Nat. Cur.* XVI. *Suppl. p.* 277, *t.* 50, *f.* 1, 2*a* (1834).

Clerome Phaon, *Westwood, Trans. Ent. Soc.* IV. *n. s. p.* .

Thaumantis Phaon, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 337, *n.* 4.

a. b. ♂ ♀. Borneo. Presented by Hugh Low, Esq.

Genus DRUSILLA, *Swainson.*

Drusilla, *Swainson, Zool. Ill.* 1*st ser. t.* 11 (1820). *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 334.

Hyades, *Boisduval.*

Tenaris (*part*), *Hübner, Verz. bek. Schmett.*

438. *DRUSILLA HORSFIELDI, Swainson.*

Drusilla Horsfieldii, *Swainson, Zool. Ill.* 1*st ser. t.* 11 (1820). *E. Doubleday, List Lep. Brit. Mus. pt.* I. *App. p.* 29. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 335.

Hyades Horsfieldii, *Boisduval, Spéc. Gén. Lép. t.* 13, *f.* 1 (1836).

Morpho Urania, *Zinken-Sommer, Nova Acta Acad. Nat. Cur.* XV. *p.* 167.

a. ♂. Java. From Dr. Horsfield's Collection.

Genus THAUMANTIS, *Hübner.*

Thaumantis, *Hübner, Samml. Exot. Schmett.* (1806–27). *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 335.

Morpho (*part*), *Godart. Horsfield. Zinken-Sommer.*

439. *THAUMANTIS ODANA, Godart Sp.*

Morpho Odana, *Godart, Enc. Méth.* IX. *p.* 445 (1819). *Horsfield, Cat. Lep. Mus. E.I.C. t.* 6, *f.* 5, 5*a*.

Thaumantis Odana, *Hübner, Samml. Exot. Schmett. Band* II. *tab.* (1806–27). *Boisduval, Spéc. Gén. Lép.* I. *t.* 12 (8*B*), *f.* 1. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 115. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 336, *n.* 1.

♂ Morpho Klugius, *Zinken-Sommer, in Nova Acta Acad. Nat. Cur.* XVI. *t.* 15, *f.* 12, 13 (1834).

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

440. *THAUMANTIS DIORES, E. Doubleday.*

Thaumantis Diores, *E. Doubleday, Ann. Nat. Hist.* XVI. *p.* 234 (1845). *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 337, *n.* 2.

a. b. c. ♂ ♀. Cherra Poonjee. Presented by Colonel Buckley.

441. *THAUMANTIS RAMDEO, Moore.*

Thaumantis Ramdeo, n. sp.—Differs from *Thaum. Diores* in being larger, and in having the brilliant blue patch very large, it being an inch in diameter either way, and which extends over the whole of the middle of the wings. The under-side is paler than in *Th. Diores*, and wavy line running near the exterior margins of *Diores* is nearly obsolete in *Th. Ramdeo;* the two ocelli on the hind-wing are very small. Expanse of male 4, female nearly 4¾ inches.

a. b. c. ♂ ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

442. *THAUMANTIS NOURMAHAL, Westwood.*

♀ Thaumantis Nourmahal, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 337, *n.* 8 (1851); id. *Trans. Ent. Soc.* IV. *n. s. p.* , *t.* , *f.* 1.

a. b. c. d. ♂ ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

443. *THAUMANTIS LUCIPOR, Westwood.*

Thaumantis Lucipor, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 337, *n.* 5 (1851); id. *Trans. Ent. Soc.* IV. *n. s. p.* , *t.* , *fig.* 1, ♂; 2, ♀.

a. ♂. Borneo. Presented by Hugh Low, Esq.

444. *THAUMANTIS NOUREDDIN, Westwood.*

Thaumantis Noureddin, *Westwood, in Doubleday and*

Hewitson's Diurnal Lep. X. *p.* 337, *n.* 6 (1851); id. *Trans. Ent. Soc.* IV. *n. s. p.* , *t.* , *fig.* 1, ♂; 2, ♀.

a. ♀. Borneo. Presented by Hugh Low, Esq.

445. *THAUMANTIS CAMADEVA, Westwood.*

Thaumantis Camadeva, *Westwood, Cabinet of Orient. Ent. p.* 9, *t.* 4, *f.* 1, 2 (1847); id. *in Doubleday and Hewitson's Diurnal Lep. p.* 337, *n.* 7, *t.* 55, *f.* 2; id. *Trans. Ent. Soc.* IV. *n. s. p.* .

a. b. ♂ ♀. Darjeeling. From Pearson's Collection.

c. d. e. f. ♂ ♀. Darjeeling. From Messrs. Schlagintweit's Collection.

Genus DEBIS, *Boisduval.*

DEBIS, *Boisduval, MS.*, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 358 (1851).

LETHE, *Hübner, Verz. bek. Schmett.* (1816).

OREAS MARMOREA (*part*), *Hübner, Samml. Exot. Schmett.*

CYLLO (*part*), *E. Doubleday.*

446. *DEBIS EUROPA, Fabricius Sp.*

Papilio Europa, *Fabricius, Syst. Ent. p.* 500 (1775); *Ent. Syst.* III. *pt.* I. *p.* 76.

Debis Europa, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 359, *n.* 1.

Lethe Europa, *Hübner, Verz. bek. Schmett. n.* 534.

Satyrus Europa, *Godart, Enc. Méth.* IX. *p.* 478.

Oreas-Marmorea-Europa, *Hübner, Samml. Exot. Schmett. Band* I. *tab.*

Cyllo Europa, *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 120.

♀ Papilio Beroe, *Cramer, Pap. Exot.* I. *t.* 79, *f. C. D.* (1779).

♂ Papilio Arete, *Cramer, Pap. Exot.* IV. *t.* 313, *f. E. F.*

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. f. g. h. ♂ ♀. Purchased.

447. *DEBIS NEILGHERRIENSIS, Guérin-Méneville Sp.*

Satyrus (Cyllo) Neelgheriensis, *Guérin-Méneville, in Delessert's Voy. dans l'Inde, pt.* II. *p.* 74, *t.* 21, *f.* 1 (1843).

a. ♂. Bootan. From Pemberton's Collection.

b. c. ♂ ♀. N. India. Presented by Colonel Buckley.

d. e. f. ♂ ♀. Darjeeling. From Messrs. Schlagintweit's Collection.

448. *DEBIS ROHRIA, Fabricius Sp.*

Papilio Rohria, *Fabricius, Mant. Ins.* II. *p.* 45 (1787); *Ent. Syst.* III. I. *p.* 75.

Debis Rohria, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 360, *n.* 4.

Satyrus Rohria, *Godart, Enc. Méth.* IX. *p.* 479.

Satyrus Isana, *Kollar, in Hügel's Kaschmir*, IV. *pt.* II. *p.* 448, *tab.* 16, *f.* 3, 4 (1844).

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. f. ♂ ♀. N. India. Presented by Lieut. Hugo James.

g. h. ♂ ♀. Darjeeling. From Messrs. Schlagintweit's Collection.

449. *DEBIS VERMA, Kollar Sp.*

Satyrus Verma, *Kollar, in Hügel's Kaschmir*, IV. *pt.* II. *p.* 447, *tab.* 16, *f.* 1, 2 (1844).

Debis Verma, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 360, *n.* 5.

a. b. ♂ ♀. Bootan. From Pemberton's Collection.

c. d. ♂ ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

e. f. ♂ ♀. Darjeeling. From Messrs. Schlagintweit's Collection.

450. *DEBIS BHAIRAVA, Moore.*

Debis Bhairava, n. sp.—Female: UPPER-SIDE olive-brown: *fore-wing* with a transverse sharply-defined dusky line bordered with a series of small white spots, disposed obliquely from beyond the

middle of anterior to near posterior margin, one-fourth from the angle; also a subapical row of four small yellow spots, parallel with exterior margin: *hind-wing* with four submarginal round black spots encircled with pale brown, and medially disposed from near anterior to near anal angle. UNDER-SIDE luteous-brown: *fore-wing* with two transverse ferruginous-brown lines, the inner one bifid across discoidal-cell, the outer straight, and bordered by the white spots; a submarginal row of four pale ocelli, also an anterior terminal yellow spot: *hind-wing* with two transverse ferruginous-brown lines, and a submarginal row of six ocelli; a narrow dark marginal line to both wings. Expanse $2\frac{5}{8}$ inches.

a. ♀. Darjeeling. From Messrs. Schlagintweit's Collection.

451. *DEBIS SCANDA, Moore.*

Debis Scanda, n. sp.—Male: UPPER-SIDE blackish, glossed with blue; along the margins pale purplish-blue: *hind-wing* with indistinct submarginal black spots. UNDER-SIDE deep ferruginous-brown: *fore-wing* with a transverse paler band across discoidal-cell, and another across the disc; a submarginal row of pale ocelli: *hind-wing* with two transverse darker lines, and a submarginal series of six, and a geminated seventh ocellus; margins pale, with a narrow darker line. Expanse $2\frac{1}{2}$ inches.

a. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

452. *DEBIS NADA, Moore.*

Debis Nada, n. sp.—Female: UPPER-SIDE dark brown: *fore-wing* with two indistinct yellowish subapical marks: *hind-wing* with row of four small black submarginal spots. UNDER-SIDE deep bright ferruginous: *fore-wing* with transverse band across discoidal-cell, and another across the disc, yellowish; a submarginal row of pale ocelli: *hind-wing* with two transverse darker lines and a row of submarginal ocelli; margins pale, with a darker narrow line; ciliæ white. Expanse $2\frac{5}{8}$ inches.

a. ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

Remark.—This may possibly be only the female of the preceding species.

453. *DEBIS ARCADIA, Cramer Sp.*

♀ Papilio Arcadia, *Cramer, Pap. Exot.* II. *t.* 116, *f. E.F.* (1779).

Debis Arcadia, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 359, *n.* 2.

Temenis Arcadia, *Hübner, Verz. bek. Schmett. n.* 279.

Satyrus Caumas, *Godart, Enc. Méth.* IX. *p.* 479, *n.* 7.

a. b. ♂. Java. From Dr. Horsfield's Collection.

454. *DEBIS MEKARA, Moore.*

Debis Mekara, n. sp.—Male: UPPER-SIDE glossy olive-brown: *hind-wing* with four round spots encircled with red. UNDER-SIDE with two transverse lines: *fore-wing* with five submarginal pale ocelli: *hind-wing* with six brown ocelli, encircled by a yellow and then a black line, the centre being minutely spangled with white. Expanse $2\frac{5}{8}$ inches.

a. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

b. c. ♂. Darjeeling. From Messrs. Schlagintweit's Collection.

455. *DEBIS CHANDICA, Moore.*

Debis Chandica, n. sp.—Male: UPPER-SIDE dark brown, about the disc blackish: *hind-wing* with indistinct submarginal spots. UNDER-SIDE: *fore-wing* pale drab-brown, and having a purple tinge; along costal margin, and broadly on exterior margin, yellowish; transverse red line crossing from middle of discoidal-cell, and another irregular brown line across the disc; five pale ocelli; straight marginal and wavy submarginal line: *hind-wing* drab-brown; two irregular zigzag transverse lines, anteriorly within yellowish, posteriorly ferruginous-brown; six ocelli encircled with a yellow and brown line, the three anterior, and last posterior, black, the other two drab, all minutely spangled with white; exterior margin yellowish; marginal line, and submarginal row of ill-defined lunular marks, ferruginous-brown. Female: UPPER-SIDE: *fore-wing* with the basal half obliquely brownish-red, anterior half brown, with a band obliquely from middle of costal margin, terminated by two spots, white: also a small white subapical spot: *hind-wing* brownish-red, anterior angle and along exterior margin yellowish; a submarginal row of indistinct spots and marginal line black. UNDER-SIDE as in male, excepting that

the oblique band of fore-wing is more distinct. Expanse of male $2\frac{1}{2}$, female $2\frac{5}{8}$ inches.

a. b. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

c. ♀. Darjeeling. From Messrs. Schlagintweit's Collection.

d. ♂. Java. From Mr. Argent's Collection.

456. *DEBIS KANSA, Moore.*

Debis Kansa, n. sp.—Male: UPPER-SIDE glossy olive-brown; *hind-wing* with caudal appendage somewhat long; marginal row of blackish spots indistinct. UNDER-SIDE drab, with two transverse dark lines; *fore-wing* with four pale ocelli: *hind-wing* with six small black ocelli, encircled by a yellow, brown, and then a lavender-coloured line, the sixth minute and geminated. Female: UPPER-SIDE dark brown: *fore-wing* with darker line across the disc: *hind-wing* with five large black spots, narrowly encircled with red, from anterior angle. UNDER-SIDE brown, darkest within the outer transverse line; the inner line within, about the apex of fore-wing, glossed with lavender-colour; ocelli pale: *hind-wing* with the anterior first and fifth ocellus large, that at the anal angle geminated, all encircled with a glossy lavender band. Expanse $2\frac{5}{8}$ inches.

a. b. ♂ ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

Genus ZOPHOESSA, *Doubleday.*

ZOPHOESSA, *E. Doubleday. Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 362 (1851).

457. *ZOPHOESSA SURA, E. Doubleday.*

Zophoessa Sura, *E. Doubleday, MS. Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 362, *t.* 61, *fig.* 1 (1851).

a. ♂. Bootan. From Pemberton's Collection.

b. c. ♂. Darjeeling. From Pearson's Collection.

d. ♂. N. India. Presented by Lieut. Hugo James.

e. ♂. Darjeeling. From Messrs. Schlagintweit's Collection.

458. *ZOPHOESSA YAMA, Moore.*

Zophoessa Yama, n. sp.—Differs from *Zoph. Sura* in having no caudal appendage to the hind-wing; the under-side having on the *fore-wing* three pale bands crossing the discoidal-cell, and four submarginal ocelli: the *hind-wing* having the basal portion irrorated with minute pale dots, the transverse streaks more oblique, and the ocelli, seven in number, are black, encircled with a pale and then a dark line, centred with a minute white dot, that at the anal angle being, as it were, geminated; ciliæ seen from upper-side yellowish-white. Sexes alike. Expanse 3 inches.

a. b. ♂. Bootan. From Pemberton's Collection.
c. ♀. N. India. Presented by Colonel Buckley.

Genus CYLLO, *Boisduval.*

CYLLO, *Boisduval, Voy. de l'Astrolabe, Entom. pt.* I. *p.* 140 (1832).
HIPIO, *pt. Hübner, Verz. bek. Schmett.* (1816).
OREAS, *pt. Hübner.*
CYLLO, *pt. E. Doubleday. Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 360.

459. *CYLLO CONSTANTIA, Cramer Sp.*

Papilio Constantia, *Cramer, Pap. Exot.* II. *t.* 133, *f. A.B.* (1779).
Cyllo Constantia, *Boisduval, Voy. de l'Astrolabe, Ent. pt.* I. *p.* 141. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 120. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 361, *n.* 5.
Hipio Constantia, *Hübner, Verz. bek Schmett. n.* 537.
Satyrus Constantia, *Godart, Enc. Méth.* IX. *p.* 477.

a. ♂. N. India. Purchased.
b. c. ♂ ♀. Darjeeling. From Messrs. Schlagintweit's Collection.

460. *CYLLO CRISHNA, Westwood.*

Cyllo Crishna, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 361, *n.* 9 (1851).

a. Java. From Mr. Argent's Collection.

Genus MELANITIS, *Fabricius*.

MELANITIS, *Fabricius, Syst. Gloss.* (*Illiger's Mag.* VI. *p.* 282, 1807).
HIPIO, *pt. Hübner, Verz. bek. Schmett.*
CYLLO, *pt. Boisduval. E. Doubleday. Westwood* (*Diurnal Lep.*).

461, *MELANITIS LEDA, Linnæus Sp.*

Papilio Leda, *Linnæus, Syst. Nat.* II. *p.* 773 (1767). *Fabricius, Syst. Ent.* III. *pt.* I. *p.* 108. *Cramer, Pap. Exot.* IV. *t.* 196, *f. C.D.*; 292, *f. A. Drury, Ill. Ent.* I. *t.* 15, *f.* 5, 6.

Melanitis Leda, *Fabricius, Syst. Gloss.* (*Illiger's Mag.* VI. *p.* 282).

♂ Oreas-Marmorea-Leda, *Hübner, Samml. Exot. Schmett. Band* I. *tab.*

Satyrus Leda, *Godart, Enc. Méth.* IX. *p.* 478.

Hipparchia Leda, *Horsfield, Cat. Lep. Mus. E.I.C. t.* 8, *f.* 9.

Cyllo Leda, *Boisduval, Voy. de l'Astrolabe, Ent. pt.* I. *p.* 142. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 121. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 361, *n.* 1.

Papilio Solandra, *Fabricius, Syst. Ent. p.* 500. *Donovan, Ins. of New Holland, t.* 23, *f.* 1.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. f. ♂ ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

g. ♂. Borneo. Presented by Edwin Shepherd, Esq., 1857.

The larva and pupa of *Melanitis Leda* are figured on Plate VI., fig. 8, 8*a*, from Java.

462. *MELANITIS BANKSIA, Fabricius Sp.*

Papilio Banksia, *Fabricius, Syst. Ent. p.* 499 (1775). *Donovan, Ins. of New Holland, t.* 25, *f.* 1.

Hipio Leda, *Hübner, Verz. bek. Schmett. n.* 538.

Satyrus Banksia, *Godart, Enc. Méth.* IX. *p.* 477.

Cyllo Banksia, *E. Doubleday, List Lep. Brit. Mus. pt.* I.

p. 121. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 361, *n.* 3.

Papilio Ismene, *Cramer, Pap. Exot.* I. *t.* 26, *f. A.B.* (1779).

Papilio Mycena, *Cramer, Pap. Exot.* IV. *t.* 291, *f. F.* (1782).

Papilio Phedima, *Cramer, Pap. Exot.* IV. *t.* 292, *f. B.*

Papilio Arcensia, *Cramer, Pap. Exot.* IV. *t.* 292, *f. C.*

a. b. c. d. e. ♂ ♀. Java. From Dr. Horsfield's Collection.

f. g. ♂ ♀. N. India. From the Asiatic Society of Bengal.

h. . Darjeeling. From Pearson's Collection.

i. N. India. Presented by Colonel Sykes.

463. *MELANITIS VAMANA, Moore.*

Melanitis Vamana, n. sp.—Differs from *Melanitis Banksia* in being larger, the subapical ferruginous patch on fore-wing occupying a larger space, the deep-black patch extends to the costal vein, the upper white spots smaller, the lower being very indistinct; two white dots on hind-wing. UNDER-SIDE marked as in some specimens of *Melanitis Banksia.* Expanse $3\frac{1}{2}$ inches.

a. b. ♂ ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

c. ♂. N. India. Presented by Colonel Sykes.

464. *MELANITIS AMBASARA, Moore.*

Melanitis Ambasara, n. sp.—UPPER-SIDE brown, having an olive gloss: *fore-wing* with an ill-defined oblique ochreous streak, bounded anteriorly on both sides with dusky-black; the streak with two small indistinct spots: *hind-wing* with very white spots. UNDER-SIDE marked as in some specimens of *Melanitis Banksia.* Expanse $3\frac{1}{8}$ inches.

a. ♂. Java. From Dr. Horsfield's Collection.

b. ♀. Java. From Mr. Argent's Collection.

465. *MELANITIS BELA, Moore.*

Melanitis Bela, n. sp.—UPPER-SIDE deep dusky-brown: *fore-wing* with small indistinct ferruginous streak, below which the space is

blackish; the two usual white spots: *hind-wing* with one minute white dot. UNDER-SIDE deep mottled ferruginous-brown: triangular patch near apex of *fore-wing* paler: *hind-wing* with six spots. Expanse 2⅞ inches.

a. ♂. N. India. Presented by Lieutenant Hugo James.

b. ♂. Assam. From McClelland's Collection.

c. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

466. *MELANITIS SUYUDANA, Moore.*

Melanitis Suyudana, n. sp.—UPPER-SIDE deep dark-brown, paler on the margins: a single whitish spot near apex of *fore-wing*, and a minute dot on *hind-wing*. UNDER-SIDE deep mottled ferruginous-brown, with indistinct darker usually transverse streaks; a triangular space of mottled greyish-white from costal margin near the apex: *hind-wing* with six small pale spots centred with a white dot. Expanse 2⅝ inches.

a. *b*. *c*. ♂ ♀. Java. From Dr. Horsfield's Collection.

467. *MELANITIS VARAHA, Moore.*

Melanitis Varaha, n. sp.—UPPER-SIDE dusky-brown, ashy-brown along exterior margins; subapical patch indistinctly black, with two white spots. UNDER-SIDE ashy, tinged with olive from the base to the middle of wing: near apex of *fore-wing* two small brown dots: *hind-wing* with submarginal row of indistinct paler spots. Expanse 2⅛ inches.

a. ♂. Canara. Presented by S. N. Ward, Esq.

468. *MELANITIS GOKALA, Moore.*

Melanitis Gokala, n. sp.—UPPER-SIDE brown, suffused with ashy about the apex and exterior margins; an indistinct blackish subapical patch (without spots). UNDER-SIDE glossy olive-brown, washed on the basal two-thirds with pulverulescent ashy-white; a small white dot on lower disco-cellular vein, and another near anal angle of *hind-wing*. Expanse 3 inches.

a. ♂. Canara, S. India. Presented by S. N. Ward, Esq.

469. *MELANITIS SURADEVA, Moore.*

Melanitis Suradeva, n. sp.—Male: UPPER-SIDE deep vinaceous-brown, darkest at the apex, and having in some lights a purple gloss: *fore-wing* with a large black patch in middle; a short narrow obliquely-curved yellow subapical streak. UNDER-SIDE dull-ochreous, suffused with brown, and covered with short, narrow, undulating striæ, as in *Melanitis Leda;* a transverse darker streak across middle of both wings; four small whitish submarginal spots on fore-wing, and two near anal angle. Expanse 3 inches.

a. ♂. Darjeeling. From Messrs. Schlagintweit's Collection.

Genus CŒLITES, *Boisduval.*

CŒLITES, *Boisduval, MS. Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 367.

470. *CŒLITES EPIMINTHIA, Boisduval.*

Cœlites Epiminthia, *Boisduval, MS. Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 368 (1851).

a. ♂. Borneo. Presented by Hugh Low, Esq.

Genus ORINOMA, *E. Doubleday.*

ORINOMA, *E. Doubleday, in Gray's Lep. of Nepal, p.* 14 (1846). *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 368.

471. *ORINOMA DAMARIS, G. R. Gray Sp.*

Pieris Damaris, *G. R. Gray, Lep. of Nepal* (1833).

Orinoma Damaris, *E. Doubleday, in Gray's Lep. of Nepal, p.* 14, *t.* 7, *f.* 2, 2*a*. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 369, *t.* 63, *f.* 3.

Satyrus Damaris, *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 122.

a. b. c. ♂. Silhet. From Colonel Buckley's Collection.

d. ♂. Darjeeling. From Messrs. Schlagintweit's Collection.

Genus NEORINA, *Westwood.*

NEORINA, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 369 (1851).

472. *NEORINA HILDA, Westwood.*

Neorina Hilda, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 370, *t.* 65, *f.* 2 (1851).

a. b. c. d. ♂ ♀. Darjeeling. From Pearson's Collection.

e. f. ♂ ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

Genus RAGADIA, *Westwood.*

NEONYMPHA (RAGADIA), *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 376 (1851).

473. *RAGADIA MAKUTA, Horsfield Sp.*

Hipparchia Makuta, *Horsfield, Cat. Lep. Mus. E.I.C. t.* 5, *f.* 9, 9*a* (1829).

Euptychia Crisia, *Hübner, Zuträge, f.* 675, 676 (1832–7).

Neonympha (Ragadia) Crisia, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 376, *n.* 26.

a. b. ♂. Java. From Dr. Horsfield's Collection.

c. ♂. Java. From Mr. Argent's Collection.

Genus EREBIA, *Dalman.*

EREBIA, *p. Dalman, P. S. p.* 81 (1816).

EPIGEA, MELAMPIAS, *Hübner, Verz. bek. Schmett.* (1816).

OREINA, *Westwood, Brit. Butt. p.* 76 (1840).

EREBIA, *Boisduval. Herr.-Schæffer. E. Doubleday. Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 376.

474. *EREBIA SCANDA, Kollar.*

Erebia Scanda, *Kollar, in Hügel's Kaschmir,* IV. *pt.* II. *p.* 452, *t.* 17, *f.* 3, 4 (1844).

a. ♂. N. India. Presented by Colonel Buckley.

b. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

475. *EREBIA ANNADA, Moore.*

Erebia Annada, n. sp.—Differs from *Erebia Scanda* in being larger, and in having the anal angle more falcated. On the under-side, the

fore-wing is of a bright ferruginous: the *hind-wing* is mottled with white nearly throughout, and from near anal angle, below the ocelli, extends a curved white line. Expanse 2½ inches.

a. b. c. ♂ ♀. Bootan. From Pemberton's Collection.

Genus LASIOMMATA, *Westwood.*

LASIOMMATA, *Westwood, Brit. Butt. p.* 65 (1840); id. *Diurnal Lep. p.* 385.

DIRA, PARARGE, EPINEPHILE, *pt. Hübner.*

476. *LASIOMMATA SCHAKRA, Kollar Sp.*

Satyrus Schakra, *Kollar, in Hügel's Kaschmir*, IV. *pt.* II. *p.* 446, *t.* 15, *f.* 3, 4 (1844).

Lasiommata Schakra, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 387, *n.* 12.

a. b. ♂. N. India. Presented by Colonel Hearsey.

c. d. ♂ ♀. N. India. Presented by Colonel Buckley.

e. f. ♂ ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

477. *LASIOMMATA? PULAHA, Moore.*

Lasiommata? Pulaha, n. sp.—UPPER-SIDE chocolate-brown, dusky about the apex and margins: *fore-wing*, with the veins at the base, a stripe at extremity of discoidal-cell, and two transverse series of spots, ochreous-yellow: *hind-wing* with two rows of ochreous-yellow spots; ciliæ spotted with yellowish-white. UNDER-SIDE dark brown: *fore-wing* with three bars across the discoidal-cell and subapical spots tinged with white; lower series of spots and space below the cell yellow: *hind-wing* with submarginal row of eight ocelli and a single ocellus at abdominal angle; an irregular dark-brown band from middle of anterior to middle of abdominal margin; markings about anterior margin tinged with white. Expanse 2⅝ inches.

a. ♂. Bootan. From Pemberton's Collection.

Remark.—This species is somewhat allied in form to *Las. Merope.*

478. *LASIOMMATA? BHADRA, Moore.*

Lasiommata? Bhadra, n. sp.—UPPER-SIDE blackish-brown, suffused with chocolate-brown at the base of fore-wing and along abdominal margin: *fore-wing* with two transverse bars within discoidal-cell and

two rows of spots across the wing yellowish, the lower inner spot being long: *hind-wing* with two rows of irregular-shaped spots, and small space about extremity of discoidal-cell deep ochreous-yellow, the last spot on each row near anal angle encircling a spot of black. UNDER-SIDE dark brown, tinged in parts with pink: *fore-wing* with markings as above; also with a subapical eye-spot: *hind-wing* with a series of seven ocelli and a smaller spot at abdominal angle; base of the wing varied with pale ochreous-white and dark-brown markings. Expanse 3½ inches.

a. b. c. d. ♂ ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

Remark.—The two preceding species may be generically separated from LASIOMMATA, under the name of ENOPE, *Moore.*

Genus XENICA, *Westwood.*

LASIOMMATA (XENICA), *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 387.

479. *XENICA ACHANTA, Donovan Sp.*

Papilio Achanta, *Donovan, Ins. of New Holland, t.* 22, *f.* 2 (1805).

Lasiommata (Xenica) Achanta, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 387, *n.* 22.

Satyrus Achanta, *Godart, Enc. Méth.* IX. *p.* 500. *Boisduval, Voy. de l'Astrolabe, Ent. pt.* I. *p.* 147.

Tisiphone Acanthe, *Hübner, Zuträge, f.* 267, 268 (1818).

a. ♂. Sumatra? From Raffles's Collection.

Genus SATYRUS, *Latreille.*

SATYRUS, *pt. Latreille.*

HIPPARCHIA, *pt. Fabricius.*

HIPPARCHIA, MINOIS, EUMENIS, ŒNEIS, PYRONIA, EPINEPHILE, TISIPHONE, *et* ENODIA, *pt. Hübner.*

480. *SATYRUS PADMA, Kollar.*

Satyrus Padma, *Kollar, in Hügel's Kaschmir,* IV. *pt.* II. *p.* 445, *t.* 15, *f.* 1, 2.

a. ♂. N. India. Presented by Edwin Shepherd, Esq.

481. *SATYRUS AVATARA, Moore.*

Satyrus Avatara, n. sp.—Differs from *Sat. Padma* in having the transverse maculated band much narrower, and there being no spots running obliquely to costal margin. It is less in size than *Pat. Padma*, but larger than *Satyrus Swaha* and *Saraswati*. Expanse $3\frac{2}{10}$ inches.

a. b. ♂. N. India. Presented by Colonel Buckley.

482. *SATYRUS SWAHA, Kollar.*

Satyrus Swaha, *Kollar, in Hügel's Kaschmir*, IV. *pt.* II. *p.* 444, *t.* 14, *f.* 1, 2 (1844). *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 390, *n.* 18.

a. ♂. N. India. From the Asiatic Society of Bengal.

b. c. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

483. *SATYRUS SARASWATI, Kollar.*

Satyrus Saraswati, *Kollar, in Hügel's Kaschmir*, IV. *pt.* II. *p.* 445 (*March*, 1844). *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 390, *n.* 19.

♂ ♀ Satyrus Brahminus, *Blanchard, in Jacquemont's Voy. dans l'Inde, Ins. p.* 22, *t.* 2, *f.* 4, 5, 6 (1844). *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 390, *n.* 16.

Satyrus Jacquemontii, *Boisduval, MS.*

a. b. ♂ ♀. N. W. India. Presented by Col. Hearsey.

Genus ERITES, *Boisduval.*

Erites, *Boisduval, MS.*

Satyrus (Erites), *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 392 (1851).

484. *ERITES MADURA, Horsfield Sp.*

Hipparchia Madura, *Horsfield, Cat. Lep. Mus. E.I.C. t.* 5, *f.* 8, 8*a* (1829).

Satyrus (Erites) Madura, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 392.

Erites Medura, *Boisduval, MS.*

a. ♀. Java. From Dr. Horsfield's Collection.

Genus MYCALESIS, *Hübner.*

MYCALESIS, *Hübner, Verz. bek. Schmett.* (1816). *E. Doubleday, List Lep. Brit. Mus. p.* 138. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 392.

485. *MYCALESIS POLYDECTA, Fabricius Sp.*

Papilio Polydecta, *Fabricius, Spec. Ins.* II. *p.* 85 (1781); *Ent. Syst.* III. *pt.* I. *p.* 107. *Cramer, Pap. Exot.* II. *t.* 144, *f. E.F.*

Mycalesis Polydecta, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 391, *n.* 1.

Satyrus Polydecta, *Godart, Enc. Méth.* IX. *p.* 511.

a. ♂. China. Presented by Dr. Cantor.

486. *MYCALESIS OTREA, Cramer Sp.*

Papilio Otrea, *Cramer, Pap. Exot.* IV. *t.* 314, *f. A.B.* (1782).

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. f. ♂. N. India. From the Asiatic Society of Bengal.

g. h. ♂ ♀. Bootan. From Pemberton's Collection.

487. *MYCALESIS FRANCISCA, Cramer Sp.*

Papilio Francisca, *Cramer, Pap. Exot.* IV. *t.* 326, *f. E.F.* (1782).

a. ♂. Assam. From McClelland's Collection.

b, c. ♂. Canara. Presented by S. N. Ward, Esq.

488. *MYCALESIS VISALA, Moore.*

Mycalesis Visala, n. sp.—This species is larger than the preceding, and has the apex of the fore-wing sharply angulated. The under-side has two transverse lines across both wings, the outer line across the middle, the inner towards the base, of the wing; the row of dots minute, white, the third from anal angle being black. Expanse $2\frac{1}{4}$ inches.

a. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

b. ♀. Bootan. From Pemberton's Collection.

c. ♀. N. India. Presented by Colonel Buckley.

489. *MYCALESIS SANATANA, Moore.*

Mycalesis Sanatana, n. sp.—UPPER-SIDE brown: *fore-wing* with a large lower, and a smaller upper eye-spot, the latter with a minute one above and below it. UNDER-SIDE ochreous-brown; the series of spots white. Expanse 2 inches.

a. ♂. Darjeeling. From Messrs. Schlagintweit's Collection.

490. *MYCALESIS MAMERTA, Cramer Sp.*

Papilio Mamerta, *Cramer, Pap. Exot.* IV. *t.* 326, *f. D.* (1782).

a. b. c. d. e. f. ♂ ♀. Java. From Dr. Horsfield's Collection.

491. *MYCALESIS DRUSIA, Cramer Sp.*

Papilio Drusia, *Cramer, Pap. Exot.* I. *t.* 84, *f. C. D.* (1779).

Var. Papilio Justinia, *Cramer, Pap. Exot.* IV. *t.* 326, *f. C.*

? Papilio Mineus, *Linnæus, Syst. Nat.* II. *p.* 768.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. f. g. ♂ ♀. N. India. Presented by Colonel Sykes.

h. ♀. Darjeeling. From Messrs. Schlagintweit's Collection.

i. ♂. (*Justinia*, Cramer.) N. India.

492. *MYCALESIS MALSARA, Moore.*

Mycalesis Malsara, n. sp.—UPPER-SIDE dark brown: *fore-wing* with a transverse brownish-white band, and upper and lower ocelli: *hind-wing* with very indistinct transverse brownish-white streak, and two small ocelli. UNDER-SIDE with transverse yellowish-white band well defined across both wings: *fore-wing* with five ocelli, the first and third minute: *hind-wing* with seven larger ocelli, the third and seventh smallest. Expanse 2¼ inches.

a. b. ♂. Darjeeling. From Messrs. Schlagintweit's Collection.

493. *MYCALESIS GOTAMA, Moore.*

Mycalesis Gotama, n. sp.—UPPER-SIDE pale brown: *fore-wing* with upper and lower ocelli: *hind-wing* with a minute ocellus. UNDER-SIDE pale greyish-brown: *fore-wing* with transverse yellowish-white band, and the two ocelli as above: *hind-wing* with transverse yellowish-white band; three ocelli from anterior margin near angle, the two lower very small; and three near anal angle, the two lower also very small. Sexes alike. Expanse, ♂ $1\frac{5}{8}$, ♀ 2 inches.

a. b. ♂ ♀. China. Presented by Dr. Cantor.

494. *MYCALESIS PATNIA, Moore.*

Mycalesis Patnia, n. sp.—UPPER-SIDE ochreous-brown: *fore-wing* with a lower black spot, centred with white, and broadly bordered on the upper half (but not on the lower) with pale ochreous; a streak from thence to base pale ochreous; near apex a small longitudinal white spot; two narrow marginal lines to both wings. UNDER-SIDE ochreous-yellow: *fore-wing* with the upper longitudinal white spot; also the large lower ocellus, the lower border of which is suffused with black; five transverse lines commencing from base, and circle round the upper spot and lower ocellus, ochreous-red; a silvery line across the middle of wing and round the ochreous-red circle: *hind-wing* with single upper and two lower white spots, distantly encircled with a black line, around this and two transverse basal lines ochreous-red; a transverse line across middle of wing, and round the outer circle of the ocelli, silvery. Sexes alike. Expanse $1\frac{5}{8}$ to $1\frac{3}{4}$ inches.

a. b. ♂ ♀. Ceylon. From M. Jonville's Collection.

495. *MYCALESIS ANAPITA, Moore.*

Mycalesis Anapita, n. sp.—UPPER-SIDE ochreous-red: *fore-wing* with the costal, exterior, and to middle of posterior margin, dark brown; a small lower black spot centred with white and encircled with red: *hind-wing* with two narrow marginal and broader submarginal lines dark brown, with three lower ocelli. UNDER-SIDE yellow, with two ochreous-red transverse lines crossing middle of both wings and bordering the ocelli on both wings; marginal lines narrow, black. Expanse $1\frac{3}{4}$ inches.

a. ♂. ? Sumatra. ? From Raffles's Collection.

Remark.—This species is closely allied to *Myc. Remulia*, Cramer, t. 237, f. F. G.

496. *MYCALESIS HERI, Moore.*

Mycalesis Heri, n. sp.—UPPER-SIDE brown: *fore-wing* with large upper and larger lower ocellus: *hind-wing* with two larger and third smaller ocelli. UNDER-SIDE paler, the base covered with short brown undulated striæ; transverse line, inner and outer border to the ocelli pale ochreous: *fore-wing* with the two ocelli as above: *hind-wing* with six ocelli; marginal lines brown and pale ochreous. Expanse 2⅜ inches.

a. b. c. ♂. Bootan. From Pemberton's Collection.

497. *MYCALESIS SAFITZA, Hewitson.*

Mycalesis Safitza, *Hewitson, MS. Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 394, *n.* 10, *t.* 66, *f.* 3 (1851).

a. ♂. Africa. Presented by Edwin Shepherd, Esq., 1857.

498. *MYCALESIS SAMBA, Moore.*

Mycalesis Samba, n. sp.—UPPER-SIDE dark brown, exterior margins paler; narrow marginal line black. UNDER-SIDE with transverse white line: *fore-wing* with two ocelli: *hind-wing* with seven ocelli, the anterior second and third very small; exterior margins pale, with narrow marginal lines. Expanse 1¼ inch.

a. ♂. N. India. Donor unknown.

Remark.—This species is somewhat allied to *Myc. Hesione*, from which it may be distinguished by having seven ocelli instead of three on the under-side of the hind-wing.

499. *MYCALESIS MANDATA, Moore.*

Mycalesis Mandata, n. sp.—UPPER-SIDE brown, with transverse band of under-side indistinctly seen through the wing. UNDER-SIDE with broad transverse very white band crossing both wings; *fore-wing* with two small ocelli: *hind-wing* with three ocelli, the anterior being small, and all encircled with a silvery line. Expanse 1½ inch.

a. ♂. Canara. Presented by S. N. Ward, Esq.

Remark.—Differs from *Myc. Hesione* on the under-side in having the transverse band three times the width that it is in that species.

500. *MYCALESIS HESIONE, Cramer Sp.*

Papilio Hesione, *Cramer, Pap. Exot.* I. *t.* 11, *f. C.D.* (1779). *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 100.

Mycalesis Hesione, *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 139. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 393, *n.* 4.

Satyrus Hesione, *Godart, Enc. Méth.* IX. *p.* 510. *Boisduval, Voy. de l'Astrolabe, Ent. pt.* I. *p.* 154.

Papilio Doris, *Cramer, Pap. Exot.* IV. *t.* 362, *f. C.*

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

g. ♂. N. India. Presented by Colonel Sykes.

501. *MYCALESIS RUNEKA, Moore.*

Mycalesis Runeka, n. sp.—UPPER-SIDE uniform dark brown. UNDER-SIDE dark brown, paler along the exterior margins; a transverse yellowish-white band crossing both wings: *fore-wing* with two, and *hind-wing* with three, *pale-brown* ocelli.

a. b. c. d. ♂ ♀. Assam. From McClelland's Collection.

502. *MYCALESIS JANARDANA, Moore.*

Mycalesis Janardana, n. sp.—Male: UPPER-SIDE dusky-brown, palest on the hind-wing, which has two rather indistinct black spots. UNDER-SIDE brown, the basal parts being covered with small narrow striæ; two transverse lines, the outer margined exteriorly with white: *fore-wing* with six and *hind-wing* with seven small ocelli. Female paler on the UPPER and UNDER-SIDE, the latter nearly covered with small dark striæ; the transverse lines paler; the ocelli somewhat larger than in male. Expanse of ♂ $1\frac{1}{2}$; ♀ $1\frac{7}{10}$ inch.

a. b. c. ♂ ♀. Java. From Dr. Horsfield's Collection.

503. *MYCALESIS? HIMACHALA, Moore.*

Mycalesis? Himachala, n. sp.—UPPER-SIDE deep brown, paler broadly along exterior margins: *fore-wing* with six and *hind-wing* with five ocelli; marginal line deep brown. UNDER-SIDE as above, but the hind-wing with six ocelli, the anterior ocellus large, and the posterior with two white dots. Expanse $2\frac{3}{4}$ to 3 inches.

a. b. c. d. e. f. ♂ ♀. Darjeeling. From Messrs. Schlagintweit's Collection.

This species may be separated under the generic name of THEOPE, *Moore.*

Genus YPHTHIMA, *Hübner.*

YPHTHIMA, *Hübner, Zuträge, f.* 83 (1818). *E. Doubleday. Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 394.

504. *YPHTHIMA LYSANDRA, Cramer Sp.*

Papilio Lysandra, *Cramer, Pap. Exot.* IV. *t.* 293, *f. G.H.* (1782).

Papilio Baldus, *Fabricius, Mant. Ins.* II. *p.* 34 (1787); *Ent. Syst.* III. *pt.* I. *p.* 323. *Donovan, Ins. of India, t.* 36, *f.* 2.

Yphthima Baldus, *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 139. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 395.

Satyrus Baldus, *Godart, Enc. Méth.* IX. *p.* 551.

a. b. c. d. e. f. ♂ ♀. Java. From Dr. Horsfield's Collection.

g. h. i. j. ♂ ♀. Darjeeling. From Messrs. Schlagintweit's Collection.

505. *YPHTHIMA PHILOMELA, Hübner.*

Yphthima Philomela, *Hübner, Zuträge, f.* 83, 84 (1818). *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 138. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 395, *n.* 3.

Satyrus Chenu, *Guérin-Méneville, in Delessert's Souv. Voy. Ind. p.* 77, *t.* 21, *f.* 2 (1843).

Yphthima Chenu, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 396, *n.* 9.

a. ♂. N. India. From the Asiatic Society of Bengal.

506. *YPHTHIMA PANDOCUS, Boisduval MS.*

Yphthima Pandocus, n. sp.—UPPER-SIDE as in *Yph. Lysandra*, but with only two ocelli on hind-wing, the lower ocellus being at anal angle and very small. UNDER-SIDE with the hind-wing having only two ocelli. Expanse of ♂ $1\frac{1}{2}$; ♀ $1\frac{3}{4}$ inch.

a. b. c. d. e. f. ♂ ♀. Java. From Dr. Horsfield's Collection.

g. h. ♂. N. India? From the Asiatic Society of Bengal.

507. *YPHTHIMA HYAGRIVA, Moore.*

Yphthima Hyagriva, n. sp.—UPPER-SIDE with only two ocelli, one being at apex of *fore-wing*, the other on *hind-wing* near anal angle. UNDER-SIDE yellowish: *hind-wing* covered with short narrow undulated striæ, with two anterior and two posterior ocelli; a marginal line and submarginal streak blackish. Expanse 1½ inch.

a. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

508. *YPHTHIMA SAKRA, Moore.*

Yphthima Sakra, n. sp.—UPPER-SIDE with five ocelli, one being on *fore-wing*, three near anal angle, and one (but indistinct) near anterior angle of *hind-wing*. UNDER-SIDE yellow, covered with short narrow dark-brown striæ: *hind-wing* with geminated anterior, and three single posterior ocelli. Expanse 2 inches.

a. b. c. d. ♂ ♀. Darjeeling. From Pearson's Collection.

e. f. ♂. Bootan. From Pemberton's Collection.

g. h. ♂ ♀. Darjeeling. From Messrs. Schlagintweit's Collection.

509. *YPHTHIMA NARASINGHA, Moore.*

Yphthima Narasingha, n. sp.—UPPER-SIDE with only one ocellus on fore-wing. UNDER-SIDE greenish-grey, covered with short undulated darker striæ; the one ocellus on fore-wing only, beneath which are two descending dark lines to posterior margin. Expanse 2 inches.

a. b. c. ♂ ♀. Darjeeling. From Messrs. Schlagintweit's Collection.

Genus ELYMNIAS, *Hübner.*

ELYMNIAS, *Hübner, Verz. bek. Schmett.* (1816).

MELANITIS, *pt. Fabricius, Syst. Gloss.* (*Illiger's Mag.* VI. *p.* 282).

MELANITIS, *Horsfield. Boisduval. E. Doubleday. Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 403.

BIBLIS, *pt. Godart.*

510. *ELYMNIAS LAIS, Fabricius Sp.*

Papilio Lais, *Fabricius, Spec. Ins.* II. *p.* 102 (1781); *Ent. Syst.* III. *pt.* I. *p.* 58. *Cramer, Pap. Exot.* II. *t.* 110, *f. A.B.* (1779).

Elymnias Lais, *Hübner, Verz. bek. Schmett. n.* 326.

Biblis Lais, *Godart, Enc. Méth.* IX. *p.* 326.

Melanitis Lais, *Boisduval. E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 143. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 404, *n.* 1.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

511. *ELYMNIAS UNDULARIS, Fabricius Sp.*

♂ Papilio undularis, *Fabricius, Spec. Ins. App. p.* 504 (1781); *Ent. Syst.* III. *pt.* I. *p.* 127. *Drury, Ill. Exot. Ins.* II. *t.* 10, *f.* 1, 2. *Cramer, Pap. Exot.* III. *t.* 256, *f. A.B.*

Biblis undularis, *Godart, Enc. Méth.* IX. *p.* 326.

Melanitis undularis, *Horsfield, Cat. Lep. Mus. E.I.C. t.* 3, *f.* 24, *t.* 8, *f.* 8. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 144. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 404, *n.* 2.

♀ Papilio Protogenia, *Cramer, Pap. Exot.* II. *t.* 189, *f. F.G. Fabricius, Ent. Syst.* III. *pt.* I. *p.* 117.

Elymnias Protogenia, *Hübner, Verz. bek. Schmett. n.* 323.

Biblis Protogenia, *Godart, Enc. Méth.* IX. *p.* 327.

♂ Elymnias Jynx, *Hübner, Zuträge, f.* 37, 38.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. f. ♂ ♀. N. India. Presented by Colonel Sykes.

g. h. i. j. k. ♂ ♀ *var.* N. India. Presented by Colonel Buckley.

l. ♂ *var.* Borneo. Presented by Edwin Shepherd, Esq.

The larva and pupa of *Elymnias undularis* are figured on Plate VI., fig. 7, 7*a*, from Java. "Feeds on the Gobbang (*Corypha umbraculifera*). May."—(Horsfield, MS.)

512. *ELYMNIAS DUSARA, Horsfield Sp.*

Melanitis Dusara, *Horsfield, Cat. Lep. Mus. E.I.C. t.* 5, *f.* 7 (1829). *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 405, *n.* 5.

a. b. c. d. e. f. ♂ ♀. Java. From Dr. Horsfield's Collection.

g. ♂ *var.* Borneo. Presented by Hugh Low, Esq.

513. *ELYMNIAS VASUDEVA, Moore.*

Elymnias Vasudeva, n. sp.—Male: UPPER-SIDE, *fore-wing* black, glossed with slaty-blue; costal margin with small bluish-white dots; longitudinal spots in middle of wing, and spots from near apex to posterior angle bluish-white: *hind-wing*, from abdominal margin to middle of wing, white, anterior and posterior border black, the latter with some marginal white spots. UNDER-SIDE white, veins black: *fore-wing* covered throughout with deep-black striæ: *hind-wing* with exterior margin covered with deep-black striæ; base of wing black, with numerous small white spots, and a large red spot below the cell; abdominal margin broadly suffused with yellow. Expanse 2¾ inches.

a. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

514. *ELYMNIAS PATNA, Westwood Sp.*

Melanitis Patna, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 405, *n.* 6, *t.* 68, *f.* 2 (1851).

a. ♂. Darjeeling. From Messrs. Schlagintweit's Collection.

515. *ELYMNIAS LEUCOCYMA, Godart Sp.*

Biblis Leucocyma, *Godart, Enc. Méth.* IX. *p.* 326 (1819).

Melanitis Leucocyma, *Boisduval. E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 144. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 404, *n.* 4.

a. b. c. ♂ ♀. Darjeeling. From Messrs. Schlagintweit's Collection.

d. e. f. ♂ ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

516. *ELYMNIAS KAMARA, Moore.*

Elymnias Kamara, n. sp.—Male: UPPER-SIDE dark ferruginous-brown, glossed with purple: *hind-wing* with three rows of ochreous-white spots along exterior margin. UNDER-SIDE paler brown, suffused with dusky-black, and covered with darker striæ; a dark line, with pale inner border, along exterior margin. Female: UPPER-SIDE ferruginous-brown: *fore-wing* with a series of ochreous-white submarginal spots from posterior angle: *hind-wing* with a series of ochreous-white markings between the veins. UNDER-SIDE ochreous, suffused with pale brown, and covered with dark-brown striæ. Expanse of ♂ 2¾; ♀ 3⅛ inches.

a. b. ♂ ♀. Java. From Mr. Argent's Collection.

Remark.—This species is somewhat allied to *Elymnias Casiphone*, Hübner.

Genus HYPANIS, *Boisduval.*

HYPANIS, *Boisduval, Spéc. Gén. Lép. t.* IX. *f.* 6 (1836); id. *Lép. Madagas. t.* 7, *f.* 5. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 410.

BIBLIA, *pt. Hübner.*

517. *HYPANIS ILITHYIA, Drury Sp.*

Papilio Ilithyia, *Drury, Ill.* II. *t.* 17, *f.* 1, 2 (1773).

Biblis Ilithyia, *Godart, Enc. Méth.* IX. *p.* 327.

Papilio Polinice, *Cramer, Pap. Exot.* IV. *t.* 375, *f. G.H.* (1782).

Hypanis Polinice, *Boisduval, Spéc. Gén. Lép.* I. *t.* 9, *f.* 6. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 145. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 411, *n.* 2.

a. ♂. N. India. Presented by Colonel Sykes.

b. ♂. N. India. From Captain Boys's Collection.

c. ♀. N. India.

Genus LIBYTHEA, *Fabricius.*

LIBYTHEA, *Fabricius, Syst. Gloss.* (*Illiger's Mag.* VI. *p.* 1, 1807). *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 412.

HECAERGE, *Hübner, Samml. Exot. Schmett.* (1806-27).

518. *LIBYTHEA MYRRHA, Godart.*

Libythea Myrrha, *Godart, Enc. Méth.* IX. *p.* 171 (1819). *Hübner, Zuträge, f.* 789, 790. *G. R. Gray, Lep. Ins. Nepal, p.* 15, *t.* 12, *f.* 4. *Boisduval, Spéc. Gén. Lép.* I. *t.* 10, *f.* 8. *E. Doubleday, List Lep. Brit. Mus. pt.* I. *p.* 146. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 413, *n.* 1.

a. ♂. S. India. Presented by S. N. Ward, Esq.

b. ♀. N. India. Presented by Colonel Buckley.

c. d. ♂ ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

519. *LIBYTHEA LEPITA, Moore.*

Libythea Lepita, n. sp.—Differs from *Libyth. Myrrha* in the ferruginous streak from base of fore-wing being divided into two portions, the first being within the discoidal-cell, the second a round terminal spot beyond its extremity.

a. b. ♂. N. India. Presented by Colonel Buckley.

c. d. e. ♂ ♀. Bootan. From Pemberton's Collection.

Stirps V., with ANOPLURIFORM Larva.

ANOPLURIFORM, *Horsfield, Cat. Lep. Mus. E.I.C. p.* 50 (1828).

NATATORIAL, *or* ANOPLURIFORM, *Swainson, Cabinet Cyclop. pp.* 58, 60 (1840).

LEP. PLEBEII-RURALES, *pt. Linnæus.*

LEP. TETRAPODA, *pt. Latreille, Règ. Anim.* V. *p.* 378 (1829).

NAPAÆÆ-RURALES, *Hübner.*

SUCCINCTI *et* SUCCINCTÆ, *pt. Boisduval.*

ERYCINIDÆ, *pt. Swainson, Zool. Ill. 2nd ser.* III. *t.* 111 (1832–3); id. *Cabinet Cyclop. pp.* 86, 94.

ERYCINIDES, *Boisduval, Spéc. Gén. des Lép.* I. *p.* 164 (1836); id. *Index Méth. Eur. Lép. p.* 14.

ERYCINIDÆ, *Westwood, Introd.* II. *p.* 357 (1840); id. *in Doubleday and Hewitson's Diurnal Lep. p.* 415. *Stephens, Cat. Brit. Lep. Brit. Mus. pt.* I. *p.* 16 (1850).

ERYCINITES, *Blanchard, Hist. Nat. des Ins.* II. *p.* 343 (1845).

ERYCINÆ, *Swainson, Zool. Ill. 2nd ser.* II. *t.* 33 (1829); id. III. *t.* 111 (1832–3).

PAP. PLEBEII-URBICOLÆ, *Linnæus.*

PAPILIONES GENTILES ASTYCI, *Hübner.*

INVOLUTI, *Boisduval, Spéc. Gén. Lép.* I. *p.* 162 (1836). *Westwood, Introd. to Ent.* II. *p.* 347; id. *Synopsis, p.* 88.

INVOLUTÆ, *Boisduval, Ind. Méth. Eur. Lép. p.* 34.

ERYNNIS, *Schrank, Fauna Boica,* II. *p.* 157 (1801).

HESPERIDES, *Latreille, Gen. Crust. et Ins.* IV. *p.* 187 (1809); *Enc. Méth.* IX. *p.* 706. *Boisduval, Spéc. Gén. Lép.* I. *p.* 167.

HESPERIDÆ, *Leach. Swainson, Cabinet Cyclop. pp.* 86, 97 (1840). *Boisduval, Ind. Méth. p.* 34. *Stephens, Cat. Brit. Lep. Brit. Mus. pt.* I. *p.* 21. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 505.

HESPERIIDÆ, *Stephens, Cat. Brit. Ent. Haust.* I. *p.* 26 (1829). *Westwood, Introd. to Ent.* II. *p.* 360; id. *Synopsis, p.* 88 (1840).

HESPERII, *Blanchard, Hist. Nat. des Ins.* II. *pp.* 322, 346 (1845).

URANIIDÆ, *pt. Westwood, Intr.* II. *p.* 369 (1840).

CYDIMONII, *Blanchard, Hist. Nat. des Ins.* II. *pp.* 322, 348 (1845). *Walker, List Lep. Brit. Mus. Het. pt.* I. *p.* 4 (1854).

Genus ZEMEROS, *Boisduval.*

ZEMEROS, *Boisduval, Spéc. Gén. Lép.* I. *t.* 21, *f.* 5 (1836). *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 418.

HAMANUMIDA, *pt. Hübner.*

520. *ZEMEROS FLEGYAS, Cramer Sp.*

Papilio Flegyas, *Cramer, Pap. Exot.* III. *t.* 280, *f. E.F.* (1782).

Zemeros Flegyas, *E. Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 1. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 419, *t.* 69, *f.* 5.

Papilio Allica, *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 244 (1793). *Donovan, Ins. of India, pl.* 37, *f.* 2.

Hamanumida Allica, *Hübner, Verz. bek. Schmett. p.* 18, *n.* 105.

Erycina Allica, *Godart, Enc. Méth.* IX. *p.* 566.

Zemeros Allica, *Boisduval, Spéc. Gén. Lép. t.* 21, *f.* 5.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. f. ♂ ♀. Assam. From McClelland's Collection.

Genus TAXILA, *E. Doubleday.*

TAXILA, *E. Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 2 (1847). *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 421.

EMESIS, *Horsfield. Boisduval (nec. Fabr.)*

521. *TAXILA DURGA, Kollar Sp.*

Melitæa Durga, *Kollar, in Hügel's Kaschmir,* IV. *pt.* II. *p.* 441, *t.* 13, *f.* 3, 4 (1844).

Taxila Durga, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 422.

Nemeobius? Demeter, *E. Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 2 (1847).

a. b. c. ♂. Simla. Presented by Colonel Hearsey.

522. *TAXILA EGEON, Boisduval Sp.*

Emesis Egeon, *Boisduval, MS.* (1847).

Taxila Egeon, *E. Doubleday, List Lep. Brit. Mus. pt.* II.

p. 2 (1847). *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 422, *n.* 2, *t.* 69, *f.* 2.

a. b. c. ♂. Bootan. From Pemberton's Collection.

d. ♀. Silhet. Presented by Colonel Buckley.

523. *TAXILA FATNA, Boisduval Sp.*

Emesis Fatna, *Boisduval, MS.* (1847).

Taxila Fatna, *E. Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 2 (1847).

a. b. ♂. Bootan. From Pemberton's Collection.

c. ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

524. *TAXILA ERATO, Boisduval Sp.*

Emesis Erato, *Boisduval, MS.* (1847).

Taxila Erato, *E. Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 2 (1847).

a. b. c. ♂ ♀. Darjeeling. From Messrs. Schlagintweit's Collection.

525. *TAXILA ECHERIUS, Stoll Sp.*

Papilio Echerius, *Stoll, Suppl. Cramer's Pap. Exot.* V. *t.* 31, *f.* 1, *a.b.* (1791).

Taxila Echerius, *E. Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 3. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 422, *n.* 3.

Erycina Echerius, *Godart, Enc. Méth.* IX. *p.* 566.

Hesperia Coriolanus, *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 284 (1793). *Jones, Icon.* VI. *t.* 48, *f.* 1.

Erycina Coriolanus, *Godart, Enc. Méth.* IX. *p.* 828.

Lycæna Xenodice, *Hübner, Verz. bek. Schmett. p.* 23.

a. b. c. ♂ ♀. Java. From Dr. Horsfield's Collection.

d. ♀. Java. From Mr. Argent's Collection.

526. *TAXILA NEOPHRON, Boisduval Sp.*

Emesis Neophron, *Boisduval, MS.* (1847).

Taxila Neophron, *E. Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 3 (1847).

a. ♀. Java? From Mr. Argent's Collection.

527. *TAXILA DRUPADI, Horsfield Sp.*

Emesis Drupadi, *Horsfield, Cat. Lep. Mus. E.I.C. t.* 2, *f.* 3, 3*a* (1828). *Boisduval, Spéc. Gén. Lép.* I. *t.* 7, *f.* 2.

Taxila Drupadi, *E. Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 2. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 422, *n.* 6.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

528. *TAXILA FYLLA, Boisduval Sp.*

Emesis Fylla, *Boisduval, MS.* (1847).

Taxila Fylla, *E. Doubleday, List Lep. Brit. Mus. pt.* II. *p.* 2 (1847). *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 422, *n.* 8, *t.* 69, *f.* 3.

a. b. c. ♂ ♀. Bootan. From Pemberton's Collection.

d. e. ♂ ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

Genus GONILOBA, *Westwood.*

Goniloba, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 511 (1852).

Epargyreus, Cretetus, Talides, Astraptes, Thracides, Telegonus, *et* Proteides, *pt. Hübner.*

Eudamus, *pt. Boisduval.*

529. *GONILOBA CHROMUS, Cramer Sp.*

Papilio Chromus, *Cramer, Pap. Exot.* III. *t.* 284, *f. E.* (1782).

Goniloba Chromus, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 513, *n.* 32.

Hesperia Chromus, *Latreille, Enc. Méth.* IX. *p.* 744.

a. b. c. ♂ ♀. Java. From Dr. Horsfield's Collection.

d. N. India. Presented by Colonel Hearsey.

e. f. Borneo. Presented by Edwin Shepherd, Esq.

530. *GONILOBA SENA, Moore.*

Goniloba Sena, *Moore, Proc. Zool. Soc. (ined.).*

a. b. c. ♂ ♀. Java. From Dr. Horsfield's Collection.

d. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

531. *GONILOBA DERMA, Moore.*

Goniloba Derma, *Moore, Proc. Zool. Soc. (ined.).*

a. ♂. Java. From Dr. Horsfield's Collection.

532. *GONILOBA BADRA, Moore.*

Goniloba Badra, *Moore, Proc. Zool. Soc. (ined.).*

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

The transformations of *Goniloba Badra* are figured on Plate VII., fig. 3, 3*a*, from Java. "Feeds upon a leguminous plant bearing the native name of *Tungkul.* March."—(Horsfield, MS.)

The transformations of this species were also observed by Mrs. Hamilton, and are figured among her original drawings, now in the possession of the Entomological Society of London.

533. *GONILOBA JAPETUS, Cramer Sp.*

Papilio Japetus, *Cramer, Pap. Exot.* IV. *t.* 365, *f. E.F.* (1782). *Drury, Ins.* III. *t.* 17, *f.* 1, 2.

Hesperia Nepos, *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 340 (1793). *Jones, Icon.* VI. *t.* 76, *f.* 2. *Latreille, Enc. Méth.* IX. *p.* 787. *Donovan's Drawings in Bibl. Hope, Oxford.*

Goniloba Nepos, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 513, *n.* 56.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

The larva and pupa of *Goniloba Japetus* are figured on Plate VII., fig. 2, 2*a*, from Java. "Feeds upon the Uwi-leggi, *Dioscorea oppositifolia.* April, May. Rather scarce."—(Horsfield, MS.)

534. *GONILOBA GANA, Moore.*

Goniloba Gana, *Moore, Proc. Zool. Soc. (ined.).*

a. b. c. ♂ ♀. Java. From Dr. Horsfield's Collection.

535. *GONILOBA RAVI, Moore.*

Goniloba Ravi, *Moore, Proc. Zool. Soc.* (*ined.*).

a. Pinang. Presented by Dr. Cantor.

536. *GONILOBA TAPANA, Moore.*

Goniloba Tapana, *Moore, Proc. Zool. Soc.* (*ined.*).

a. Borneo. Presented by Edwin Shepherd, Esq.

537. *GONILOBA MENAKA, Moore.*

Goniloba Menaka, *Moore, Proc. Zool. Soc.* (*ined.*).

? Hesperia Eson, *Boisduval, MS.*

a. b. c. d. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

538. *GONILOBA GOPALA, Moore.*

Goniloba Gopala, *Moore, Proc. Zool. Soc.* (*ined.*).

a. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

539. *GONILOBA MADHAVA, Moore.*

Goniloba Madhava, *Moore, Proc. Zool. Soc.* (*ined.*).

a. Darjeeling. From Messrs. Schlagintweit's Collection.

540. *GONILOBA PRALAYA, Moore.*

Goniloba Pralaya, *Moore, Proc. Zool. Soc.* (*ined.*).

a. b. Java. From Dr. Horsfield's Collection.

541. *GONILOBA BHAGAVA, Moore.*

Goniloba Bhagava, *Moore, Proc. Zool. Soc.* (*ined.*).

a. N. India. Presented by Colonel Buckley.

542. *GONILOBA SAMBARA, Moore.*

Goniloba Sambara, *Moore, Proc. Zool. Soc.* (*ined.*).

a. b. c. Darjeeling. From Messrs. Schlagintweit's Collection.

Genus ISMENE, *Swainson.*

ISMENE, *Swainson, Zool. Ill. 1st ser. t.* 16 (1820–1).
THYMELE, *Boisduval, Fauna Madagascar.*
CASTNIUS, *pt. Hübner.*

543. *ISMENE ŒDIPODEA, Swainson.*

♂ ♀ Ismene Œdipodea, *Swainson, Zool. Ill. 1st ser. t.* 16 (1820–21). *Thon, Ent. Archiv. p.* 91, *pl.* 4, *fig.* 5. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 515, *n.* 3.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.
e. ♂. Bootan. From Pemberton's Collection.
f. ♂. Silhet. Presented by Colonel Buckley.
g. ♀. Canara, S. India. Presented by S. N. Ward, Esq.

The larva and pupa of *Ismene Œdipodea* are figured on Plate VII., fig. 4, 4*a*, from Java. "Feeds upon *Gærtnera Javensis*, which bears the native name of *Kakkas*. August."—(Horsfield, MS.)

544. *ISMENE JAINA, Moore.*

Ismene Jaina, *Moore, Proc. Zool. Soc.* (*ined.*).

a. ♂. Darjeeling. From Messrs. Schlagintweit's Collection.

545. *ISMENE HARISA, Moore.*

Ismene Harisa, *Moore, Proc. Zool. Soc.* (*ined.*).

a. b. c. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

546. *ISMENE AMARA, Moore.*

Ismene Amara, *Moore, Proc. Zool. Soc.* (*ined.*).

a. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

547. *ISMENE VASUTANA, Moore.*

Ismene Vasutana, *Moore, Proc. Zool. Soc.* (*ined.*).

a. Darjeeling. From Pearson's Collection.
b. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

548. *ISMENE BENJAMINI, Guérin-Méneville Sp.*

Hesperia (Thymele) Benjaminii, *Guérin-Méneville, in Delessert's Voy. dans l'Inde, pt.* 2, *p.* 79, *t.* 22, *f.* 2, 2*a* (1843).

Ismene Benjaminii, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 515, *n.* 4.

Hesperia Xanthopogon, *Kollar, in Hügel's Kaschmir,* IV. *pt.* II. *p.* 453, *t.* 18, *f.* 1, 2 (1844).

a. N. India. Presented by Colonel Buckley.

b. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

549. *ISMENE JAYADEVA, Moore.*

Ismene Jayadeva, *Moore, Proc. Zool. Soc.* (*ined.*).

a. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

550. *ISMENE SINTA, Moore.*

Ismene Sinta, *Moore, Proc. Zool. Soc.* (*ined.*).

a. Java. From Dr. Horsfield's Collection.

551. *ISMENE DASA, Moore.*

Ismene Dasa, *Moore, Proc. Zool. Soc.* (*ined.*).

a. Java. From Dr. Horsfield's Collection.

552. *ISMENE LADON, Cramer Sp.*

Papilio Ladon, *Cramer, Pap. Exot.* III. *t.* 284, *f. G.* (1782).

Ismene Ladon, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 515, *n.* 11.

Hesperia Ladon, *Latreille, Enc. Méth.* IX. *p.* 749.

a. b. Java. From Dr. Horsfield's Collection.

c. d. N. India. From the Asiatic Society of Bengal.

e. N. India. Presented by Colonel Hearsey.

553. *ISMENE AMBASA, Moore.*

Ismene Ambasa, *Moore, Proc. Zool. Soc.* (*ined.*).

a. b. ♂. Java. From Dr. Horsfield's Collection.

c. ♀. N. India. Presented by Lieutenant Hugo James.

The larva and pupa of *Ismene Ambasa* are figured on Plate VII., fig. 6, 6*a*, from Java. "Feeds upon a species of Pandanus, bearing the native name of *Pandan-duri*. May. Rather scarce."—(Horsfield, MS.)

554. *ISMENE CHAON, Boisduval.*

Ismene Chaon, *Boisduval, MS.*

a. b. c. d. Java. From Dr. Horsfield's Collection.

e. Pinang. Presented by Dr. Cantor.

555. *ISMENE BATARA, Moore.*

Ismene Batara, *Moore, Proc. Zool. Soc.* (*ined.*).

a. b. c. Java. From Dr. Horsfield's Collection.

Genus PYRGUS, *Hübner.*

PYRGUS, *Hübner. Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 516.

SYRICHTUS, *Boisduval.*

556. *PYRGUS AGAMA, Moore.*

Pyrgus Agama, *Moore, Proc. Zool. Soc.* (*ined.*).

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

The larva and pupa of *Pyrgus Agama* are figured on Plate VII., fig. 1, 1*a*, from Java. "Feeds upon a species of Microcos, bearing the native name of *Talok*. December to February. Rather common."—(Horsfield, MS.)

557. *PYRGUS SUPERNA, Moore.*

Pyrgus Superna, *Moore, Proc. Zool. Soc.* (*ined.*).

a. b. N. India. From the Asiatic Society of Bengal.

c. d. N. India. Presented by Colonel Hearsey.

558. *PYRGUS DANNA, Moore.*

Pyrgus Danna, *Moore, Proc. Zool. Soc.* (*ined.*).

a. b. c. Bootan. From Pemberton's Collection.

559. *PYRGUS? PURENDRA, Moore.*

Pyrgus Purendra, *Moore, Proc. Zool. Soc.* (*ined.*).

a. Canara, S. India. Presented by S. N. Ward, Esq.

Genus NISONIADES, *Hübner.*

NISONIADES, *Hübner.*

THANAOS, *Boisduval.*

560. *NISONIADES SALSALA, Moore.*

Nisoniades Salsala, *Moore, Proc. Zool. Soc.* (*ined.*).

a. b. c. Canara (S. India). Presented by S. N. Ward, Esq.

561. *NISONIADES DAHA, Moore.*

Nisoniades Daha, *Moore, Proc. Zool. Soc.* (*ined.*).

a. b. c. Java. From Dr. Horsfield's Collection.

562. *NISONIADES DIOCLES, Boisduval.*

Thanaos Diocles, *Boisduval, MS.*

a. b. c. d. e. ♂ ♀. Java. From Dr. Horsfield's Collection.

563. *NISONIADES? AMERTA, Moore.*

Nisoniades? Amerta, *Moore, Proc. Zool. Soc.* (*ined.*).

a. Java. From Dr. Horsfield's Collection.

b. N. India. Presented by Colonel Buckley.

Genus PAMPHILA, *Fabricius.*

PAMPHILA, *Fabricius, Syst. Gloss.* (*Illiger's Mag.* VI. *p.* 287, 1807). *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 521.

CÆLÆNORRHINUS, CYCLOPIDES, STEROPES, AUGIADES, *et* THYMELICUS, *pt. Hübner.*

HESPERIA, *Boisduval.*

564. *PAMPHILA VEDANGA, Moore.*

Pamphila Vedanga, *Moore, Proc. Zool. Soc.* (*ined.*).

a. b. c. ♂. Java. From Dr. Horsfield's Collection.

d. ♂. Bootan. From Pemberton's Collection.

e. ♂. N. India. Presented by Colonel Hearsey.

f. ♂. Canara, S. India. Presented by S. N. Ward, Esq.

g. h. ♂ ♀. N. India. Presented by Colonel Buckley.

565. *PAMPHILA NARANATA, Moore.*

Pamphila Naranata, *Moore, Proc. Zool. Soc.* (*ined.*).

a. Java. From Dr. Horsfield's Collection.

566. *PAMPHILA AUGIAS, Linnæus Sp.*

Papilio Augias, *Linnæus, Syst. Nat.* I. II. *p.* 794. *Fabricius, Mant. Ins.* II. *p.* 84. *Donovan, Ins. of India, t.* 48, *f.* 1.

Pamphila Augias, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 522, *n.* 14.

Hesperia Augias, *Latreille, Enc. Méth.* IX. *p.* 767.

♂ Pamphila Pheres, *Boisduval, MS.*

a. b. c. d. e. f. g. h. ♂ ♀. Java. From Dr. Horsfield's Collection.

567. *PAMPHILA SUMBADRA, Moore.*

Pamphila Sumbadra, *Moore, Proc. Zool. Soc.* (*ined.*).

a. b. Java. From Dr. Horsfield's Collection.

Genus ACHLYODES, *Hübner.*

Achlyodes, *Hübner, Zuträge.*

Eantis, *Boisduval.*

568. *ACHLYODES? CHANDRASA, Moore.*

Achlyodes? Chandrasa, *Moore, Proc. Zool. Soc.* (*ined.*).

a. Java. From Dr. Horsfield's Collection.

569. *ACHLYODES? SURA, Moore.*

Achlyodes? Sura, *Moore, Proc. Zool. Soc.* (*ined.*).

a. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

570. *ACHLYODES? VASAVA, Moore.*

Achlyodes ? Vasava, *Moore, Proc. Zool. Soc.* (*ined.*).

a. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

Genus HESPERIA, *Fabricius.*

Hesperia, *Fabricius. Swainson, Zool. Ill.* 1*st ser. Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 525.

571. *HESPERIA FOLUS, Cramer Sp.*

Papilio Folus, *Cramer, Pap. Exot.* I. *t.* 74, *f. F.* (1779).

Hesperia Cicero, *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 358 (1793). *Latreille, Enc. Méth.* IX. *p.* 787. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 526, *n.* 16.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. N. India. From the Asiatic Society of Bengal.

f. S. India. Presented by S. N. Ward, Esq.

The larva and pupa of *Hesperia Folus* are figured on Plate VII., fig. 7, 7*a*, copied from the original drawings in the possession of A. Grote, Esq., of Calcutta.

572. *HESPERIA FATIH, Kollar.*

Hesperia Fatih, *Kollar, in Hügel's Kaschmir*, IV. *pt.* II. *p.* 454, *t.* 18, *f.* 5, 6 (1844). *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 526, *n.* 19.

a. N. India. Presented by Colonel Buckley.

b. c. d. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

573. *HESPERIA PULOMAYA, Moore.*

Hesperia Pulomaya, *Moore, Proc. Zool. Soc.* (*ined.*).

a. b. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

574. *HESPERIA LEUCOCERCA, Kollar.*

Hesperia leucocerca, *Kollar, in Hügel's Kaschmir*, IV. *pt.* II. *p.* 454, *t.* 18, *f.* 3, 4 (1844). *Westwood, in*

Doubleday and Hewitson's Diurnal Lep. p. 526, *n.* 20.

a. Bootan. From Pemberton's Collection.

575. *HESPERIA PUTRA, Moore.*

Hesperia Putra, *Moore, Proc. Zool. Soc.* (*ined.*).

a. b. c. Java. From Dr. Horsfield's Collection.

576. *HESPERIA ASMARA, Moore.*

Hesperia Asmara, *Moore, Proc. Zool. Soc.* (*ined.*).

a. Java. From Dr. Horsfield's Collection.

577. *HESPERIA ALYSOS, Boisduval.*

Hesperia Alysos, *Boisduval, MS.*

a. b. c. d. e. f. ♂ ♀. Java. From Dr. Horsfield's Collection.

578. *HESPERIA PRABA, Moore.*

Hesperia Praba, *Moore, Proc. Zool. Soc.* (*ined.*).

a. Java. From Dr. Horsfield's Collection.

579. *HESPERIA INDRANI, Moore.*

Hesperia Indrani, *Moore, Proc. Zool. Soc.* (*ined.*).

a. ♂. N. India. Presented by Colonel Hearsey.

b. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

580. *HESPERIA DAN, Fabricius.*

Hesperia Dan, *Fabricis, Mant. Ins.* II. *p.* 88 (1787); *Ent. Syst.* III. I. *p.* 341.

Goniloba Dan, *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 513, *n.* 52.

Hesperia Eacus, *Latreille, Enc. Méth.* IX. *p.* 738 (1819).

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

581. *HESPERIA SEMA, Moore.*

Hesperia Sema, *Moore, Proc. Zool. Soc.* (*ined.*).

a. Java. From Dr. Horsfield's Collection.

582. *HESPERIA THRAX, Linnæus Sp.*

Papilio Thrax, *Linnæus, Syst. Nat.* I. II. *p.* 794 (1767). *Fabricius, Mant. Ins.* II. *p.* 87 ? *Donovan, Ins. of India, t.* 49, 2.

Hesperia Thrax, *Latreille, Enc. Méth.* IX. *p.* 748. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 527, *n.* 38.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. f. ♂ ♀. Darjeeling. From Messrs. Schlagintweit's Collection.

The larva and pupa of *Hesperia Thrax* are figured on Plate VII., fig. 5, 5*a*, from Java. "Feeds on the Pisang (*Mura paradisiaca*). November to February. Common."—(Horsfield, MS.)

583. *HESPERIA IRAVA, Moore.*

Hesperia Irava, *Moore, Proc. Zool. Soc.* (*ined.*).

Cælænorrhinus Thrax, *Hübner, Zuträge, f.* 875–6.

a. b. c. d. Java. From Dr. Horsfield's Collection.

584. *HESPERIA PANDIA, Moore.*

Hesperia Pandia, *Moore, Proc. Zool. Soc.* (*ined.*).

a. Java. From Dr. Horsfield's Collection.

b. Canara (S. India). Presented by S. N. Ward, Esq.

The larva and pupa of *Hesperia Pandia* are figured on Plate VII., fig. 10, 10*a*, copied from the original drawings made by A. Grote, Esq.

585. *HESPERIA ESA, Moore.*

Hesperia Esa, *Moore, Proc. Zool. Soc.* (*ined.*).

a. Java. From Dr. Horsfield's Collection.

586. *HESPERIA DRUNA, Moore.*

Hesperia Druna, *Moore, Proc. Zool. Soc.* (*ined.*).

a. Java. From Dr. Horsfield's Collection.

587. *HESPERIA ARIA, Moore.*

Hesperia Aria, *Moore, Proc. Zool. Soc.* (*ined.*).

a. b. Java. From Dr. Horsfield's Collection.

588. *HESPERIA CHAYA, Moore.*

Hesperia Chaya, *Moore, Proc. Zool. Soc.* (*ined.*).

a. b. Java. From Dr. Horsfield's Collection.

c. Pinang. Presented by Dr. Cantor.

d. e. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

f. N. India. Presented by Colonel Hearsey.

589. *HESPERIA AGNA, Moore.*

Hesperia Agna, *Moore, Proc. Zool. Soc.* (*ined.*).

a. b. c. Java. From Dr. Horsfield's Collection.

d. e. f. g. Canara, S. India. Presented by S. N. Ward, Esq.

590. *HESPERIA MANGALA, Moore.*

Hesperia Mangala, *Moore, Proc. Zool. Soc.* (*ined.*).

a. b. Pinang. Presented by Dr. Cantor.

c. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

591. *HESPERIA CINNARA, Moore.*

Hesperia Cinnara, *Moore, Proc. Zool. Soc.* (*ined.*).

a. b. Java. From Dr. Horsfield's Collection.

592. *HESPERIA KUMARA, Moore.*

Hesperia Kumara, *Moore, Proc. Zool. Soc.* (*ined.*).

a. Canara, S. India. Presented by S. N. Ward, Esq.

593. *HESPERIA SUTAPA, Moore.*

Hesperia Sutapa, *Moore, Proc. Zool. Soc.* (*ined.*).

a. Java. From Dr. Horsfield's Collection.

594. *HESPERIA DIVODASA, Moore.*

Hesperia Divodasa, *Moore, Proc. Zool. Soc.* (*ined.*).

a. Canara, S. India. Presented by S. N. Ward, Esq.

Remark.—The above enumerated new species of Hesperia form the subjects of a memoir which is now in course of preparation to be submitted to the Zoological Society of London.

Genus NYCTALEMON, *Dalman.*

NYCTALEMON, *Dalman, Acta Holm.* (1824), *p.* 407. *Westwood. Walker, List Lep. Brit. Mus. Het. pt.* I. *p.* 7.

ORONTES, *Swainson, Zool. Ill. 2nd ser. pl.* 125 ( ).

URANIA, *pt. Fabricius. Latreille.*

595. *NYCTALEMON PATROCLUS, Linnæus Sp.*

Papilio Patroclus, *Linnæus, Mus. Lud. Ulr. p.* 204 ( ); *Syst. Nat.* II. *p.* 749. *Clerck, Icon. pl.* 37, *f.* 1. *Fabricius, Spec. Ins.* II. *p.* 13; *Mant. Ins.* II. *p.* 7; *Ent. Syst.* III. *p.* 2. *Seba, Mus.* IV. *pl.* 47, *f.* 13, 16. *D'Aubent, Miscell. pl.* 17, *f.* 1, 2. *Olivier, Enc. Méth. Ins. Pap. pl.* 8, *f.* 1. *Cramer, Pap. Exot.* III. *p.* 9, *pl.* 198, *f. A. pl.* 109, *f. A.B. Herbst, Pap. pl.* 54, *f.* 2, 3, *pl.* 55, *f.* 1.

Nyctalemon Patroclus, *Westwood. Drury, Ins.* I. *p.* 13, *pl.* 7, *f.* 1, *pl.* 8, *f.* 1. *Walker, List Lep. Brit. Mus. Het. pt.* I. *p.* 8.

Noctua Patroclus, *Fabricius, Ent. Syst.* III. 2, 8, 2.

Urania Patroclus, *Latreille. Latreille et Godart, Enc. Méth.* IX. *p.* 710. *Lamarck, Hist. Nat. Anim. Invert.* IV. *p.* 194. *Boisduval, Voy. de l'Astrolabe, pt.* I. *Lép. p.* 254.

Lyssa Achillaria *et* L. Patroclaria, *Hübner, Verz. bek. Schmett. p.* 289.

a. Silhet. From Mr. Argent's Collection.

"This insect is common in Collections from China, Assam, Silhet, and Arakan."—(E. Blyth, J. A. S. Beng. (1854), p. 217.)

Tribe II. SPHINGES.

Sphinx, *pt. Linnæus* (*Sphinges legitimæ*, sec. *, **, *** *pt.*).

Lep. Crepuscularia, *Latreille, Gén. Crust. et Ins.* IV. *pp.* 187, 209 (1809). *Stephens, Cat. Brit. Lep. Brit. Mus. pt.* I. *p.* 24 (1850).

Fusicornes *seu* Closteroceres, *pt. Dumeril, Consid. Gén. des Ins. pp.* 139, 163, 322 (1823).

Heterocera, *pt. Boisduval et Leconte, Icon. Lép.* I. *p.* 39 (1836). *Boisduval, Ind. Méth. p.* 39 (1840). *Westwood, Introd.* II. *p.* 363 (1840). *Stephens, Cat. Lep. Brit. Mus. pt.* I. *p.* 24 (1850). *Walker, Cat. Lep. Brit. Mus. Het. pt.* I. *p.* 1 (1854). *Stainton, Insecta Brit. Lep. Tineina, p.* 2 (1855); id. *Manual Brit. Butt. p.* 72 (1856).

Chalinoptera, *pt. Blanchard, Hist. Nat. des Ins.* II. *pp.* 322, 349. *Chenu, Enc. d'Hist. Nat. Pap.* 232.

Sph. Legitimæ, Integrales, *et* Dentales, *Haworth, Lep. Brit. p.* 55 (1803).

Sphingii, *pt. Blanchard, Hist. Nat. des Ins.* II. *pp.* 323, 356. *Chenu, Enc. d'Hist. Nat. Pap. p.* 252. *Walker, Cat. Lep. Brit. Mus. Het. pt.* I. *p.* 2 (1854); id. *pt.* VIII. *p.* 76.

Sphingidæ, *Leach, Edin. Encycl.* IX. *p.* (1815). *Horsfield, Cat. Lep. Mus. E.I.C. pp.* 20, 22 (1828). *Stephens, Ill.* I. *p.* 110 (1828); id. *Cat. Brit. Lep. Brit. Mus. pt.* I. *p.* 25 (1850). *Westwood, Introd.* II. *p.* 364 (1840). *Walker, Cat. Lep. Brit. Mus. Het. pt.* I. *p.* 76 (1856). *Stainton, Manual Brit. Butt. pp.* 75, 81 (1856).

Sphingides, *Latreille, Gén. Crust. et Ins.* IV. *pp.* 188, 209.

Sphinges, *pt. Hübner, Zuträge, p.* 4 (1818).

Sphingides, *Boisduval, Ind. Méth. Lép. Eur. p.* 45 (1840).

Sphingidæ, *pt. Swainson, Cab. Cycl. p.* 99 (1840).

Sphingina, *Stainton, Insecta Brit. Lep. Tineina, p.* 2 (1855); id. *Manual Brit. Butt. pp.* 72, 75 (1856).

Castnii *et* Castnites, *pt. Blanchard. Walker.*

The SPHINGES constitute in this Catalogue a distinct Tribe, equal in rank and value to the PAPILIONES, or to the other Tribes which will be subsequently defined, although more limited in the number of individuals.

The metamorphosis varies in the different Stirpes. The chrysalis is generally naked, of a cylindrico-conical form, deposited on the surface, under the earth, or rarely enveloped in a slight web.

The antennæ are prismatic, somewhat fusiform, or thickened in the middle and attenuated at the ends. The individuals are provided with a proboscis, varying in size and length in the different Stirpes.

This Tribe is subdivided into five distinct Stirpes, four of which derive their name from the form of the Caterpillar.

The *first* Stirps forms a natural junction between the Hesperidæ, the last subdivision of the Anopluriform Stirps of the PAPILIONES, and the second Stirps of the SPHINGES. The typical genera are *Castnia* and *Euschemon*. Their reciprocal affinity manifests itself in the following characters:—*First*, in the form of the antennæ: these organs in *Castnia* resemble those of *Hesperia* in the length of the club and its attenuation towards the base, while they approach to *Sphinx* in the prismatic form of the club and its terminal hook. *Secondly*, the fore-legs are perfect in both sexes of *Hesperia* and *Castnia*.

The habit and aspect are very similar in both groups. In the Systems of Lamarck and Latreille, *Castnia* and *Sphinx* stand contiguous.

Mr. Swainson, who observed *Castnia* in its native country, states that "they fly by day, and much in the same manner as the typical *Hesperidæ*. The antennæ are intermediate in form between a *Sphinx* and a *Hesperia*."—(Swainson and Shuckard's Treatise on Insects, p. 104.)

The metamorphosis is as yet a desideratum in Entomology.

The *second* Stirps, named *Elongatæ* or *Langleib-raupen*, Wien. Verz. and Schrank, has a cylindrical larva, more slender and elongated than in the other Stirpes. It is generally without lateral ocelli; the head is globular, and the abdominal horn short and rigid. The perfect insect has short wings, and flies by day, and the abdomen is terminated by a broad or depressed brush-like appendage. The proboscis is long. In their metamorphosis they exhibit a slight affinity to the Diurna. The typical genera are *Sesia* and *Macroglossa*. The metamorphosis is illustrated on Plate VIII., in figures 1, 2, 3, and 4.

The *third* Stirps, named *Acrocephalæ* or *Spitzohopf-raupen*, Wien. Verz. and Schrank, has a larva with a head almost triangular or acuminated above, the body being obliquely striated, generally with yellow,—naked, and somewhat rugose; the abdominal horn of moderate size, smooth, and marked with a peculiar colour. The perfect insect is strikingly distinguished by its angulated or excavated wings. The proboscis is very short or obsolete. The typical genus is *Smerinthus*. Of this Stirps no transformations are contained in the Company's Museum.

The *fourth* Stirps, named *Amblocephalæ* or *Stumpfkopf-raupen*—obtuse-headed larva,—has a larva with an ovate truncated head; it is nearly naked and even on the surface; the abdominal horn is lengthened, tuberculated, and curved. The perfect insect has entire lanceolate wings; the abdomen is marked with oblique lateral striæ. The proboscis is large and strong, and this character is strikingly manifested in the pupa (see Plate IX., fig. 3*a*). The typical genera are *Acherontia* and *Sphinx*. The metamorphosis is illustrated on Plate VIII., fig. 6, and Plate IX., figs. 1, 2, 3, and 4.

The *fifth* Stirps, characteristically named in the Wiener Verzeichnis *Augen-raupen*, larvæ *Ophthalmicæ*, has a larva with a small globose retractile head, and is moreover strikingly distinguished by the ocelli with which it is marked, and which are also observed on the chrysalis. These ocelli, or eyes, are placed in some genera behind the head only, while in others they exist in a regular row along the entire larva, and in some cases are very prominent and brilliant, as appears in the figures. The metamorphosis takes place on the surface of the earth, the pupa being in some cases covered with a slight web. The pupa is enlarged towards the head, and is generally provided with an annular case, covering the proboscis. The proboscis is not so large as in the preceding Stirps. In the perfect insect the abdomen is long and acute, and the individuals in many cases have the habit of a *Vespertilio*.

The typical genera are *Deilephila* and *Chærocampa*. The metamorphoses are illustrated on Plate IX., fig. 5, and Plates X. and XI.

Stirps II. Larvæ ELONGATÆ.

SESIÆ, sect. TECTÆ *et* (DENUDATÆ, *div.* I.), *Haworth, Lep. Brit. pp.* 55, 65 (1803).

MACROGLOSSIADÆ, *Harris.*

SESIARIÆ, *pt. Boisduval, Ind. Méth. Lép. Eur. p.* 41 (1840).

SESIIDÆ, *Stephens, Ill.* I. *p.* 132 (1828); id. *Cat. Brit. Lep. Brit. Mus. pt.* I. *p.* 29 (1850). *Stainton, Manual Brit. Butt. pp.* 75, 97 (1856).

SESIIDES, *pt. Blanchard, Hist. Nat. des Ins.* II. *p.* 352 (1845).

Genus SESIA, *Fabricius.*

SESIA, *Fabricius, Ent. Syst.* III. I. *p.* 379 (1775). *Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 79 (1856).

SPHINX, *pt. Linnæus.*

HEMARIS, *Dalman, Sp. S. p.* 215 ( ).

MACROGLOSSA, *pt. Ochsenheimer. Boisduval.*

CEPHONODES, *pt. Hübner, Verz. bek. Schmett. p.* 131.

596. *SESIA HYLAS, Linnæus Sp.*

Sphinx Hylas, *Linnæus, Mant.* I. *p.* 539 ( ). *Fabricius, Spec. Ins.* II. *p.* 154; id. *Mant. Ins.* II. *p.* 99. *Gmelin, Syst. Nat.* I. 5, 2387, 95.

Sesia Hylas, *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 379. *Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 84.

Cephonodes Hylas, *Hübner, Verz. bek. Schmett. p.* 131.

Sphinx Picus, *Cramer, Pap. Exot.* II. *p.* 83, *pl.* 148 *f. B.* (1779).

Macroglossa Picus, *Kollar, in Hügel's Kaschmir,* IV. *pt.* II. *p.* 458.

a. N. India. Presented by Colonel Sykes.

b. N. India. Presented by Colonel Hearsey.

c. Canara, S. India. Presented by S. N. Ward, Esq.

d. e. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

f. Pinang. Presented by Dr. Cantor.

The larva and pupa of *Sesia Hylas* are figured on Plate VIII., fig. 1, 1*a*, copied from General Hardwicke's original drawings, fig. 179.

Genus SATASPES, *Moore.*

MACROGLOSSA (Group 3), *Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 95.

Differs from *Macroglossa* in having the antennæ stout and strongly serrate-setose; abdomen broad to the tip; the fore-wings very narrow and pointed, and the exterior border extremely oblique.

597. *SATASPES INFERNALIS, Westwood Sp.*

Sesia infernalis, *Westwood, Cabinet Orient. Ent. p.* 61, *pl.* 30, *f.* 3 (1847).

Macroglossa infernalis, *Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 95.

a. Silhet. Presented by the Trustees of the British Museum.

Genus MACROGLOSSA, *Ochsenheimer.*

MACROGLOSSUM, *Scopoli, Ent. Carn. p.* 414 (1763). *Swainson, Zool. Ill.* 1*st ser. t.* 64.

MACROGLOSSA, *Ochsenheimer, Schmett. von Eur.* IV. *p.* 41 (1816). *Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 85.

SPHINX, *pt. Linnæus.*

SESIA, *pt. Fabricius, Ent. Syst.*

PSITHYROS *et* CEPHONODES, *pt. Hübner.*

598. *MACROGLOSSA STELLATARUM, Linnæus Sp.*

Sphinx Stellatarum, *Linnæus, Syst. Nat.* I. *p.* 493 (1758).

Macroglossa Stellatarum, *Ochsenheimer, Schmett. von Eur.* IV. *p.* 42. *Stephens, Ill. Brit. Ent. Haust.* I. *p.* 133; *Cat. Brit. Lep. Brit. Mus. pt.* I. *p.* 29. *Boisduval, Ind. Méth. p.* 45. *Curtis, Brit. Ent.* XVI. *pl.* 747. *Stainton, Manual Brit. Lep.* I. *p.* 98. *Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 86.

Sesia Stellatarum, *Fabricius, Ent. Syst.* III. *pt.* I. *p.* 380.

Psithyros Stellatarum, *Hübner, Verz. bek. Schmett. p.* 132.

a. China. Presented by Dr. Cantor.

599. *MACROGLOSSA CORYTHUS, Boisduval.*

Macroglossa Corythus, *Boisduval, MS. Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 92 (1856).

Macroglossum arcuatum, *Horsfield, MS.* (1826).

a. b. c. d. Java. From Dr. Horsfield's Collection.

e. Canara. Presented by S. N. Ward, Esq.

f. g. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

h. Ladakh. Presented by Captain R. Strachey.

The larva and pupa of *Macrog. Corythus* are figured on Plate VIII., fig. 2, 2*a*, from Java.

600. *MACROGLOSSA GILIA, Boisduval.*

Macroglossa Gilia, *Boisduval, MS. Herrich-Schæffer, Lep. Exot. series* I. *pt.* 6, *f.* 107 (1854). *Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 93 (1856).

Macroglossum maculatum, *Horsfield, MS.* (1826).

a. b. c. d. e. f. Java. From Dr. Horsfield's Collection.

The larva and pupa of *Macrog. Gilia* are figured on Plate VIII., fig. 3, 3*a*, from Java. "Feeds on the Patji or Bengkudu (*Morinda citrifolia*). January and February. Tolerably common."—(Horsfield, MS. Notes.)

601. *MACROGLOSSA GYRANS, Boisduval.*

Macroglossa gyrans, *Boisduval, MS. Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 91 (1856).

a. b. N. India. Presented by Colonel Sykes.

c. d. N. India. Presented by Colonel Hearsey.

602. *MACROGLOSSA SITIENE, Boisduval.*

Macroglossa Sitiene, *Boisduval, MS. Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 92 (1856).

a. N. India. Presented by Colonel Buckley.

603. *MACROGLOSSA PASSALUS, Drury Sp.*

Sphinx Passalus, *Drury, Ins.* II. *p.* 52, *pl.* 29, *f.* 2 (1773).

Macroglossa Passalus, *Westwood, in 2nd ed. Drury's Ins. Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 92.

Sphinx Belis, *Cramer, Pap. Exot.* II. *p.* 147, *pl.* 94, *f. C.* (1782).

Macroglossum Rhebus, *De Cerisy, MS.* (1826).

a. Java. (*Mac. Rhebus,* De Cerisy). From Dr. Horsfield's Collection.

b. c. N. India. Presented by Colonel Sykes.

d. e. N. India. Presented by Colonel Hearsey.

f. Canara, S. India. Presented by S. N. Ward, Esq.

604. *MACROGLOSSA DIVERGENS, Walker.*

Macroglossa divergens, *Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 94 (1856).

a. b. Canara, S. India. Presented by S. N. Ward, Esq.

605. *MACROGLOSSA NYCTERIS, Kollar.*

Macroglossa Nycteris, *Kollar, in Hügel's Kaschmir,* IV. *pt.* II. *p.* 458, *pl.* XIX. *f.* 5 (1844).

Macroglossa volucris, *Boisduval, MS. Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 94 (1856).

a. N. India. From Captain Boys's Collection.

606. *MACROGLOSSA FARO, Cramer Sp.*

Sphinx Faro, *Cramer, Pap. Exot.* III. *p.* 165, *pl.* 285 *f. C.* (1782).

a. Java. From Dr. Horsfield's Collection.

Remark.—This is a very distinct and well-defined species, and is correctly figured by Cramer.

Genus LOPHURA, *Boisduval.*

Lophura, *Boisduval, MS. Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 105 (1856).

Enyo, *pt. Hübner, Verz. bek. Schmett.*

607. *LOPHURA HYAS, Boisduval.*

Lophura Hyas, *Boisduval, MS. Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 107 (1856).

Macroglossum geometricum, *Horsfield, MS.* (1826).

a. b. c. d. e. f. Java. From Dr. Horsfield's Collection.

The larva and pupa of *Lophura Hyas* are figured on Plate VIII., fig. 4, 4*a*, from Java. "Feeds on a species of Pæderia, bearing the native name of *Simbuan*."—(Horsfield, MS.)

Stirps III. Larvæ ACORCEPHALÆ.

Genus SMERINTHUS, *Latreille.*

SMERINTHUS, *Latreille, Hist. Nat. Ins.* III. *p.* 401 (1802). *Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 239.

SPHINX, *pt. Linnæus.*

MERINTHUS, *Meigen.*

PAONIAS, MIMAS, *et* POLYPTYCHUS, *Hübner, Verz. bek. Schmett.*

608. *SMERINTHUS DRYAS, Boisduval.*

Smerinthus Dryas, *Boisduval, MS. Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 250 (1856).

Smerinthus parallelis, *Horsfield, MS.* (1826).

Smerinthus Horsfieldii, *De Cerisy, MS.* (1826).

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

609. *SMERINTHUS DENTATUS, Cramer Sp.*

Sphinx dentatus, *Cramer, Pap. Exot.* II. *p.* 42, *pl.* 125, *f. G.* (1779). *Fabricius, Spec. Ins.* II. *p.* 43, *n.* 16; *Mant. Ins.* II. *p.* 94, *n.* 18; *Ent. Syst.* III. I. *p.* 361, *n.* 19.

Smerinthus dentatus, *Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 252.

Polyptychus dentatus, *Hübner, Verz. bek. Schmett. p.* 141.

Sphinx Timesius, *Stoll, Suppl. Cramer, Pap. Exot.* V. *p.* 172, *t.* 40, *f.* 1.

a. ♂. N. India. Presented by Colonel Hearsey.

b. ♀. N. India. From Captain Boys's Collection.

Stirps IV. Larvæ AMBLOCEPHALÆ.

Genus LEUCOPHLEBIA, *Westwood.*

LEUCOPHLEBIA, *Westwood, Cabinet Orient. Ent. p.* 46 (1847). *Walker, List Lep. Brit. Mus. Het. pt.* IX. *p.* 136.

610. *LEUCOPHLEBIA LINEATA, Westwood.*

Leucophlebia lineata, *Westwood, Cabinet Orient. Ent. p.* 46, *pl.* 22 (1847). *Walker, List Lep. Brit. Mus. Het. pt.* IX. *p.* 136.

a. Java. From Dr. Horsfield's Collection.

b. N. India. From the Asiatic Society of Bengal.

The larva of this interesting genus is figured on Plate VIII., fig. 5, copied from the original drawing made by — Frith, Esq. "Feeds on the Ootoo, or common thatch-grass (*Saccharum cylindricum*). Rather common."—(Frith's MS. Notes.)

Remark.—This genus is arranged by Mr. F. Walker, in his tribe NOCTUITES, at the end of the family *Leucanidæ*, who remarks, that it "is very remote from the other *Leucanidæ*, and has some affinities with the BOMBYCITES, but hardly belongs to any described family of *Lepidoptera heterocera*."

Genus BASIANA, *Walker.*

BASIANA, *Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 236 (1856).

611. *BASIANA CERVINA, Walker.*

Basiana cervina, *Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 237 (1856).

a. b. ♂ ♀. Madras. From Captain J. M. Jones's Collection.

c. ♀. N. India. Presented by the Trustees of the British Museum.

Genus AMBULYX, *Boisduval.*

AMBULYX, *Boisduval, MS. Westwood, Orient. Ent.* (1847). *Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 120 (1856).

PHOLUS *et* AMBLYPTERUS, *pt. Hübner.*

612. *AMBULYX SUBSTRIGILIS, Westwood.*

Sphinx (Ambulyx) substrigilis, *Westwood, Orient. Ent. p.* 61, *pl.* 30, *f.* 2 (1847).

Ambulyx substrigilis, *Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 122.

Ambulyx Moorei, *Boisduval, MS. Mus. E.I.C.*

a. Java. (*A. Moorei,* Boisd.) From Dr. Horsfield's Collection.

b. Canara, S. India. Presented by S. N. Ward, Esq.

Genus CALYMNIA, *Boisduval.*

Calymnia, *Boisduval, MS. Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 123 (1856).

Amblypterus, *pt. Hübner.*

613. *CALYMNIA PANOPUS, Cramer Sp.*

Sphinx Panopus, *Cramer, Pap. Exot.* III. *p.* 50, *pl.* 224, *f. A.B.* (1782).

Calymnia Panopus, *Boisduval. Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 124.

Amblypterus Panopus, *Hübner, Verz. bek. Schmett. p.* 133.

Smerinthus ? Panopus, *Westwood, Cabinet Orient. Ent. p.* 13, *pl.* 6, *f.* 2.

a. b. c. Java. From Dr. Horsfield's Collection.

The larva and pupa of *Calymnia Panopus* are figured on Plate VII., fig. 6, 6*a*, from Java. "Feeds on the Manga (*Mangifera indica*). May."—(Horsfield, MS.)

Genus ACHERONTIA, *Ochsenheimer.*

Acherontia, *Ochsenheimer, Schmett. von Eur.* IV. *p.* 44 (1816). *Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 233.

Sphinx, *pt. Linnæus.*

Acherontia, *pt. Hübner, Verz. bek. Schmett.* (1816).

Brachyglossa, *Boisduval.*

614. *ACHERONTIA STYX, Westwood.*

Acherontia Styx, *Westwood, Cabinet Orient. Ent. p.* 88, *pl.* 42, *f.* 3 (1847).

Acherontia Atropos, var., *Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 234.

Acherontia Medusa, *De Cerisy, MS. Mus. E.I.C.* (1826).

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. ♂. Pinang. Presented by Dr. Cantor, 1854.

f. ♀. Dukhun. Presented by Colonel Sykes.

g. h. ♂ ♀. Madras. From Captain J. M. Jones's Collection.

The larva and pupa of *Ach. Styx* are figured on Plate IX. fig. 1, 1*a*, from India, copied from the original drawings made by Lady Isabella Rose Gilbert.

615. *ACHERONTIA SATANAS, Boisduval.*

Acherontia Satanas, *Boisduval, Spéc. Gén. des Lép. Planches, p.* 5, *pl.* 16, *f.* 1 (1836).

Acherontia Lethe, *Westwood, Cabinet Orient. Ent. p.* 87, *pl.* 42, *f.* 2 (1847).

Sphinx Atropos, var., *Cramer, Pap. Exot.* III. *p.* 74, *pl.* 237, *f. A.*

? Acherontia Morta, *Hübner, Verz. bek. Schmett. p.* 140.

Acherontia Circe, *De Cerisy, MS. Mus. E.I.C.* (1826).

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. f. ♂ ♀. Silhet. Presented by Colonel Buckley.

g. ♀. China. Presented by Dr. Cantor.

The larva and pupa of *Ach. Satanas* are figured on Plate IX., fig. 2, 2*a*, from Java. "Feeds on the Tambaku, Kechubung (*Nicotiana Tabacum*). January and February. Common."—(Horsfield, MS.)

Genus SPHINX, *Linnæus.*

Sphinx, *Linnæus, Syst. Nat.* I. II. *p.* 796 (1767). *Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 211.

Agrius, Lethia, *et* Phlegethontius, *pt. Hübner.*

616. *SPHINX CONVOLVULI, Linnæus.*

Sphinx Convolvuli, *Linnæus, Syst. Nat.* I. 2, *p.* 798 (1767). *Drury, Ins.* I. *pl.* 25, *f.* 1. *Cramer, Pap. Exot.* III. *p.* 55, *pl.* 225, *f. D. Fabricius, Spec. Ins.* II. *p.* 150; *Mant. Ins.* II. *p.* 97; *Ent. Syst.*

III. I. *p.* 374. *Stephens, Ill. Brit. Ent. Haust.* I. *p.* 119; *Cat. Lep. Brit. Mus. pt.* I. *p.* 27. *Westwood, Brit. Moths*, I. *p.* 12, *pl.* 3, *f.* 1–3. *Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 212.

Agrius Convolvuli, *Hübner, Verz. bek. Schmett. p.* 140.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. ♀. Pinang. Presented by Dr. Cantor.

f. g. ♂ ♀. Dukhun. Presented by Colonel Sykes.

h. i. ♂ ♀. Madras. From Captain J. M. Jones's Collection.

The larva and pupa of *Sph. Convolvuli* are figured on Plate IX., fig. 3, 3*a*, from Java. "Feeds on *Phaseolus Max.* January."—(Horsfield, MS.)

Genus MACROSILA, *Boisduval.*

Macrosila, *Boisduval, MS. Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 198 (1856).

Cocytius, Phlegethontius, Acherontia, *et* Hyloicus, *pt. Hübn.*

617. *MACROSILA NYCTIPHANES, Boisduval.*

Macrosila Nyctiphanes, *Boisduval, MS. Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 209 (1856).

a. b. c. ♂ ♀. Silhet. Presented by Colonel Buckley.

618. *MACROSILA DISCISTRIGA, Walker.*

Macrosila discistriga, *Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 209 (1856).

Sphinx emarginata, *Horsfield, MS.* (1826).

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. ♀. Canara, S. India. Presented by S. N. Ward, Esq.

f. g. ♂ ♀. N. India. Presented by Colonel Buckley.

Genus ZONILIA, *Boisduval.*

Zonilia, *Boisduval, MS. Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 192 (1856).

Nephele, *pt. Hübner.*

619. *ZONILIA MORPHEUS, Cramer Sp.*

Sphinx Morpheus, *Cramer, Pap. Exot.* II. *p.* 84, *pl.* 149, *f. D.* (1779).

Zonilia Morpheus, *Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 194.

Nephele Morpheus, *Hübner, Verz. bek. Schmett. p.* 133.

Sphinx Hespera, *Fabricius, Spec. Ins.* II. *p.* 152; *Mant. Ins.* II. *p.* 91; *Ent. Syst.* III. *pt.* I. *p.* 372.

? Sphinx Chiron, *Cramer, Pap. Exot.* II. *pl.* 137, *f. E.*

a. b. Dukhun. Presented by Colonel Sykes.

c. d. N. India. Presented by Colonel Hearsey.

e. Canara. Presented by S. N. Ward, Esq.

f. g. Ceylon. From M. Jonville's Collection.

Stirps V. Larvæ OPHTHALMICÆ.

Genus PANACRA, *Walker.*

PANACRA, *Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 154 (1856).

620. *PANACRA AUTOMEDON, Boisduval Sp.*

Deilephila Automedon, *Boisduval, MS.*

Panacra Automedon, *Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 154 (1856).

a. Silhet. Presented by the Trustees of the British Museum.

621. *PANACRA SCAPULARIS, Horsfield Sp.*

Deilephila scapularis, *Horsfield, MS.* (1826).

Panacra scapularis, *Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 157 (1856).

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

The larva and pupa of *Pan. scapularis* are figured on Plate IX., fig. 5, 5*a*, from Java. "Feeds on a species of Arum, bearing the native name of *Lumba*. February and March. Solitary in April and May."—(Horsfield, MS.)

622. *PANACRA VIGIL, Guérin-Méneville Sp.*

Sphinx (Deilephila) Vigil, *Guérin-Méneville, in Delessert's Souv. Voy. dans l'Inde, pt.* II. *p.* 80, *pl.* 23, *f.* 1 (1843).

Panacra lignaria, *Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 156 (1856).

a. b. Ceylon. From M. Jonville's Collection.

The larva, pupa, and imago of this species are figured among Mr. E. Layard's Ceylonese drawings.

623. *PANACRA BUSIRIS, Boisduval Sp.*

Deilephila Busiris, *Boisduval, MS.*

Panacra Busiris, *Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 158 (1856).

a. Silhet. Presented by the Trustees of the British Museum.

b. Canara, S. India. Presented by S. N. Ward, Esq.

Genus PHILAMPELUS, *Harris.*

PHILAMPELUS, *Harris, Amer. Journ. Sci.* XXXVI. *Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 173.

PHOLUS, ARGEUS, *et* DUPO, *pt. Hübner, Verz. bek. Schmett.*

ORNEUS *et* DAPHNIS, *pt. Hübner, Verz. bek. Schmett.*

ENYO, *pt. Hübner. Walker.*

624. *PHILAMPELUS ANCEUS, Cramer Sp.*

Sphinx Anceus, *Cramer, Pap. Exot.* IV. *p.* 124, *pl.* 355, *f. A.* (1782).

Enyo Anceus, *Hübner, Verz. bek. Schmett. p.* 132. *Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 119.

a. b. ♂ ♀. Java. From Dr. Horsfield's Collection.

c. ♀. Pinang. Presented by Dr. Cantor.

The larva and pupa of *Phil. Anceus* are figured on Plate IX., fig. 4, 4*a*, from Java. "Feeds on a species of Cissus, bearing the native name of *Jambul.* March."—(Horsfield, MS.)

625. *PHILAMPELUS SERICEUS, Walker.*

Philampelus sericeus, *Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 181.

? Sphinx anceus, *Cramer.*

a. Silhet. Presented by the Trustees of the British Museum.

b. c. d. e. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

626. *PHILAMPELUS NAGA, Moore.*

Philampelus Naga, n. sp.—Differs from *Phil. sericeus* in being of a paler colour and more silky in appearance: the *fore-wing* has an oblique blackish streak from middle of costal margin to near middle of outer margin, another from the middle of this to near base of posterior margin, and one tapering along exterior margin from near apex; also various small narrow undulating lines. Expanse 4½ inches.

a. b. c. d. Darjeeling. From Messrs. Schlagintweit's Collection.

Genus DARAPSA, *Walker.*

Darapsa, *Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 182 (1856).

Daphnis, *pt. Hübner.*

Chærocampa, *pt. Harris.*

627. *DARAPSA HYPOTHOÜS, Cramer Sp.*

Sphinx Hypothoüs, *Cramer, Pap. Exot.* III. *p.* 165, *pl.* 285, *f. F.* (1782).

Darapsa Hypothoüs, *Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 186.

Daphnis Hypothoüs, *Hübner, Verz. bek. Schmett. p.* 134.

a. b. c. d. e. f. ♂ ♀. Java. From Dr. Horsfield's Collection.

The larva and pupa of *Darapsa Hypothoüs* are figured on Plate X., fig. 2, 2*a*, from Java. "Feeds on the Malati-kosta (*Cadamba jasminiflora*),—April; and on a species of Contorta, bearing the native name of *Alluk-antung*. January to April."—(Horsfield, MS.)

Genus DAPHNIS, *Hübner*.

DAPHNIS, *Hübner, Verz. bek. Schmett. p.* 134. *Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 187.

DEILEPHILA, *pt. Boisduval, Ind. Méth.*

CHÆROCAMPA, *Curtis.*

628. *DAPHNIS NERII, Linnæus Sp.*

Sphinx Nerii, *Linnæus, Syst. Nat.* I. 2, *p.* 798 (1767). *Fabricius, Spec. Ins.* II. *p.* 142; *Mant. Ins.* II. *p.* 93; *Ent. Syst.* III. I. *p.* 360. *Cramer, Pap. Exot.* III. *p.* 51, *pl.* 224, *f. D.*

Daphnis Nerii, *Hübner, Verz. bek. Schmett. p.* 134. *Stephens, Cat. Brit. Lep. p.* 29. *Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 188.

Deilephila Nerii, *Boisduval, Ind. Méth. p.* 47.

Chærocampa Nerii, *Curtis, Brit. Ent.* XIII. *pl.* 626.

a. b. c. ♂ ♀. Dukhun. Presented by Colonel Sykes.

c. N. India. Presented by Colonel Hearsey.

d. Madras. From Captain J. M. Jones's Collection.

The larva and pupa of *Daphnis Nerii* are figured on Plate X., fig. 3, 3*a*, copied from the original drawings of General Hardwicke in the British Museum. "Larva found full-grown at Dum-Dum in the beginning of November, which changed to a pupa on the 20th, the imago coming forth on December 21st. Another full-grown larva found on May 7th, changing to pupa on the 11th, the perfect insect emerging on the 24th. Feeds on *Nerium Oleander*."—(Hardwicke, MS. Note.)

Genus PERGESA, *Walker*.

PERGESA, *Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 149 (1856).

DEILEPHILA, *pt. Ochsenheimer. Boisduval. Stephens.*

THERETRA *et* OREUS, *pt. Hübner.*

CHÆROCAMPA, *pt. Westwood. Stephens.*

629. *PERGESA ACTEUS, Cramer Sp.*

Papilio Acteus, *Cramer, Pap. Exot.* III. *p.* 93, *pl.* 248, *f. A.* (1782).

Pergesa Acteus, *Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 153.

Oreus Acteus, *Hübner, Verz. bek. Schmett. p.* 136.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. N. India. From the Asiatic Society of Bengal.

The larva and pupa of *Pergesa Acteus* are figured on Plate X., fig. 1, 1*a*, from Java. "Feeds on a species of Arum, bearing the native names of *Senti* and *Suwuy*. January and February. Scarce." —(Horsfield, MS.)

The transformations of this species were also observed by Captain J. Mortimer Slater at Dinapore, in July, 1848, and are figured on page 182 of his original drawings. Also by General Hardwicke (see his Drawings, fig. 172*a*).

630. *PERGESA CASTOR, Boisduval Sp.*

Deilephila Castor, *Boisduval, MS.*

Pergesa Castor, *Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 153 (1856).

a. b. c. d. ♂ ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

e. f. g. h. ♂ ♀. Darjeeling. From Messrs. Schlagintweit's Collection.

Genus ELIBIA, *Walker.*

ELIBIA, *Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 148 (1856).

631. *ELIBIA DOLICHUS, Westwood Sp.*

Chærocampa Dolichus, *Westwood, Cabinet Orient. Ent. p.* 61, *pl.* 30, *f.* 1 (1847).

Elibia Dolichus, *Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 149.

a. Silhet. Presented by the Trustees of the British Museum.

b. N. India. From Mr. Argent's Collection.

Genus DEILEPHILA, *Ochsenheimer.*

DEILEPHILA, *Ochsenheimer, Schmett. von Eur.* IV. *p.* 42 (1816). *Curtis. Stephens. Boisduval. Walker.*

PHRYXUS, HYLES, *et* THAUMAS, *pt. Hübner.*

632. *DEILEPHILA LATHYRUS, Boisduval.*

Deilephila Lathyrus, *Boisduval, MS. Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 172 (1856).

a. N. India. From Captain J. M. Jones's Collection.

633. *DEILEPHILA LIVORNICA, Esper Sp.*

Sphinx Livornica, *Esper, Ausl. Schmett.* II. *pp.* 87, 196, *pl.* 8, *fig.* 4 (1785); id. II. *Suppl.* 41, *pl.* 46, *f.* 3—7. *Hübner, Sphing. p.* 96, *pl.* 12, *f.* 65, *pl.* 23, *f.* 112.

Deilephila Livornica, *Stephens, Cat. Brit. Lep. Brit. Mus. pt.* I. *p.* 28. *Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 164.

Phryxus Livornica, *Hübner, Verz. bek. Schmett. p.* 137.

Sphinx lineata, *Fabricius, Spec. Ins.* II. *p.* 147; *Mant. Ins.* II. *p.* 96; *Ent. Syst.* III. I. *p.* 368.

Sphinx lineata, *Stephens, Ill. Brit. Lep. Haust.* I. *p.* 126, *pl.* 12, *f.* 1.

a. b. c. d. ♂ ♀. Landoor, N. W. India. Presented by Colonel Hearsey.

Genus CHÆROCAMPA, *Duponchel.*

Chærocampa, *Duponchel, Hist. Nat. Lép. France, Suppl.* II. *p.* 159 (1835). *Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 126.

Deilephila, *pt. Ochsenheimer. Boisduval.*

Oreus, Hippotion, Isoples, Amphion, Theretra, *et* Thaumas, *pt. Hübner.*

Metopsilus, *pt. Duncan, Brit. Moths, p.* 154.

634. *CHÆROCAMPA CELERIO, Linnæus Sp.*

Sphinx Celerio, *Linnæus, Syst. Nat.* I. 2, *p.* 800 (1767). *Fabricius, Spec. Ins.* II. *p.* 151. *Cramer, Pap. Exot.* II. *p.* 42, *pl.* 25, *f. E.*

Chærocampa Celerio, *Stephens, Cat. Brit. Lep. p.* 28. *Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 128. *Stainton, Brit. Butt.* I. *p.*

Deilephila Celerio, *Stephens, Ill. Brit. Ent. Haust.* I. *p.* 128. *Boisduval, Ind. Méth. Eur. Lép. p.* 47.

Hippotion Celerio, *Hübner, Verz. bek. Schmett. p.* 135.

Deilephila inquilina, *Harris, Ex. p.* 93, *pl.* 28, *f.* 1.

Hippotion Ocys, *Hübner, Verz. bek. Schmett. p.* 135.

a. b. c. d. Java. From Dr. Horsfield's Collection.

e. N. India. Presented by Colonel Sykes.

f. g. h. N. India. Presented by Colonel Hearsey.

The larva and pupa of *Chær. Celerio* are figured on Plate XI., fig. 1, 1*a*, copied from fig. 165*b* of the original drawings of General Hardwicke in the British Museum.

635. *CHÆROCAMPA ALECTO, Linnæus Sp.*

Sphinx Alecto, *Linnæus, Mus. Lugd. Ulr. p.* 357 ( ). *Drury, Ins. Exot.* II. *p.* 48, *pl.* 27, *f.* 4. *Cramer, Pap. Exot.* II. *p.* 62, *pl.* 137, *f. D. Fabricius, Spec. Ins.* II. *p.* 152; *Mant. Ins.* II. *p.* 97; *Ent. Syst.* III. I. *p.* 376. *Menetries, Cat. Obj. Zool. Caucase, p.* 258.

Chærocampa Alecto, *Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 130.

Isoples Alecto, *Hübner, Verz. bek. Schmett. p.* 135.

Deilephila Alecto, *Boisduval, Ind. Méth. p.* 46.

Deilephila Cretica, *Boisduval, Icon. Hist. Lep. Sphingidæ, p.* 20, ♀. *Duponchel, Hist. Nat. Lép. France,* III. *Suppl. p.* 15, *pl.* 1, *f.* 3.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. N. India. Presented by Colonel Buckley.

f. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

"The larva and pupa of *Chær. Alecto* are figured on Plate X., fig. 4, 4*a*, from Java."—(Horsfield.)

The transformations of this species were also observed by Captain J. Mortimer Slater at Dinapore, July, 1849, who states that "the larva is common on the vine with *Chær. Clotho.*"

The transformations are also figured in General Hardwicke's drawings (fig. 173) in the British Museum.

636. *CHÆROCAMPA SUFFUSA, Walker.*

Chærocampa suffusa, *Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 146 (1856).

a. China. Presented by Dr. Cantor.

b. Borneo. Presented by Hugh Low, Esq.

637. *CHÆROCAMPA PALLICOSTA, Boisduval Sp.*

Deilephila pallicosta, *Boisduval, MS.*

Chærocampa pallicosta, *Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 145 (1856).

a. b. c. Silhet. Presented by Colonel Buckley.

638. *CHÆROCAMPA THYELIA, Linnæus Sp.*

Sphinx Thyelia, *Linnæus, Mus. Lugd. Ulr. p.* 360 ( ); *Syst. Nat.* I. 2, *p.* 803. *Clerck, Icon. pl.* 46, *f.* 7, 8. *Cramer, Pap. Exot.* I. *p.* 58, *pl.* 226, *f. E. F. Fabricius, Spec. Ins.* II. *p.* 153 ; *Mant. Ins.* II. *p.* 98 ; *Ent. Syst.* III. I. *p.* 378.

Isoples Thyelia, *Hübner, Verz. bek. Schmett. p.* 135.

Var. Sphinx Boërhaviæ, *Fabricius, Spec. Ins.* II. *p.* 148; *Mant. Ins.* II. *p.* 96 ; *Ent. Syst.* III. I. *p.* 371. *Sulzer, Hist. Ins. pl.* 20, *f.* 3.

Var. Sphinx Pluto, *Fabricius, Spec. Ins.* II. *p.* 148.

Var. Sphinx Eson, *Cramer, Pap. Exot.* III. *p.* 57, *pl.* 226, *f. C.*

Isoples Eson, *Hübner, Verz. bek. Schmett. p.* 135.

Chærocampa Eson, *Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 137.

Deilephila Rafflesii, *Horsfield, MS.* (1826).

a. b. c. d. Java. From Dr. Horsfield's Collection.

e. China. Presented by Dr. Cantor.

f. N. India. Presented by Colonel Hearsey.

g. h. i. j. Canara. Presented by S. N. Ward, Esq.

639. *CHÆROCAMPA LINEOSA, Walker.*

Chærocampa lineosa, *Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 144 (1856).

a. b. c. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

d. e. Darjeeling. From Messrs. Schlagintweit's Collection.

640. *CHÆROCAMPA NESSUS, Drury Sp.*

Sphinx Nessus, *Drury, Ill. Exot. Ins.* II. *p.* 46, *pl.* 27, *f.* 1 (1773). *Cramer, Pap. Exot.* III. *pl.* 226, *f. D.*

Chærocampa Nessus, *Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 140.

a. b. c. d. e. f. Java. Presented by Dr. Horsfield.

The larva and pupa of *Chær. Nessus* are figured on Plate XI., fig. 2, 2*a*, from Java. "Feeds on the Uwi (*Dioscorea oppositifolia*). December to March."—(Horsfield, MS.)

641. *CHÆROCAMPA CLOTHO, Drury Sp.*

Sphinx Clotho, *Drury, Ill. Exot. Ins.* II. *p.* 48, *pl.* 28, *f.* 1 (1773). *Fabricius, Syst. Ent. p.* 540; *Mant. Ins.* II. *p.* 97; *Ent. Syst.* III. I. *p.* 376.

Chærocampa Clotho, *Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 141.

Deilephila Cyrene, *Westwood, Cabinet Orient. Ent. p.* 13, *pl.* 6, *f.* 1 (1847).

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. China. Presented by Dr. Cantor.

642. *CHÆROCAMPA LUCASI, Boisduval Sp.*

Deilephila Lucasii, *Boisduval, MS.*

Chærocampa Leucasii, *Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 141 (1856).

Deilephila spilota, *Horsfield, MS.* (1826).

a. b. c. d. Java. From Dr. Horsfield's Collection.

e. Canara, S. India. Presented by S. N. Ward, Esq.

The larva and pupa of *Chær. Lucasi* are figured on Plate XI., fig. 3, 3*a*, from Java. "Feeds on the Galing (*? Cissus*). December to April. Most abundant."—(Horsfield, MS.)

643. *CHÆROCAMPA LYCETUS, Cramer Sp.*

Sphinx Lycetus, *Cramer, Pap. Exot.* I. *pl.* 61, *f. D.* (1779). *Fabricius, Ent. Syst.* III. I. *p.* 371.

Chærocampa Lycetus, *Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 143.

Xylophanes Lycetus, *Hübner, Verz. bek. Schmett. p.* 136.

? Sphinx Drancus, *Cramer, Pap. Exot.* II. *p.* 56, *pl.* 132, *f. F.*

a. N. India. From the Asiatic Society of Bengal.

b. c. N. India. Presented by Colonel Hearsey.

644. *CHÆROCAMPA OLDENLANDIÆ, Fabricius Sp.*

Sphinx Oldenlandiæ, *Fabricius, Spec. Ins.* II. *p.* 148 (1781); *Mant. Ins.* II. *p.* 96; *Ent. Syst.* III. I. *p.* 370. *Lewin, Prodr. Ent. p.* 4, *pl.* 3. *Thon, Ent. Archiv. pt.* I. *p.* 6, *pl.* 1, *f.* 3.

Chærocampa Oldenlandiæ, *Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 142.

Xylophanes Gortys, *Hübner, Samml. Exot. Schmett. pp.* 58, 513–14.

a. b. c. d. e. ♂ ♀. Java. From Dr. Horsfield's Collection.

The larva and pupa of *Chær. Oldenlandiæ* are figured on Plate XI., fig. 4, 4*a*, from Java. "Feeds on a species of Cissus, bearing the native name of *Galing*. December."—(Horsfield, MS.)

645. *CHÆROCAMPA BISECTA, Horsfield Sp.*

Deilephila Silhetensis, *Boisduval, MS.**

Chærocampa Silhetensis, *Walker, List Lep. Brit. Mus. Het. pt.* VIII. *p.* 143.

Deilephila bisecta, *Horsfield, MS.* (1826).

a. b. c. d. Java. From Dr. Horsfield's Collection.

e. N. India. Presented by Colonel Buckley.

The larva and pupa of *Chær. bisecta* are figured on Plate XI., fig. 5, 5*a*, from Java. "Feeds on a species of Boërhavia, bearing the native name of *Chakas-ayam*. February and March."—(Horsfield, MS.)

* This name is cancelled, as being inapplicable.

APPENDIX.

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17. Add the following to Tribe I. :—

PAPILIONES, *Swainson, Zool. Ill. 2nd ser. pl.* 114 (1832–3); id. *Cabinet Cyclop. p.* 58 (1840).

ACHALINOPTERA, *pt. Blanchard, Hist. Nat. des Ins.* II. *pp.* 322–3 (1845).

SUSPENSI, *Boisduval, Spéc. Gén. Lép.* I. *pp.* 162, 164 (1836).

PENDULÆ, *Boisduval, Ind. Méth. Eur. Lép. p.* 15 (1840).

NUDI, *Westwood, Introd. to Ent.* II. *p.* 347; id. *Syn. p.* 87 (1840).

18. Add the following to Stirps I. :—

ONISCIFORM, *Westwood.*

SUCTORIAL, *or* VERMIFORM, *Swainson, Cab. Cyclop. pp.* 58, 61 (1840).

LEP. HEXAPODA, *pt. Latreille, Règ. Anim.* V. (1829).

LYCÆNINÆ, *Swainson, Cabinet Cyclop. pp.* 87, 89 (1840).

LYCENITES, *Blanchard, Hist. Nat. des Ins.* II. *p.* 342 (1845).

ERYCINII, *pt. Blanchard,* id. *pp.* 322, 341.

21. No. 7. The larva and pupa of *Polyommatus Laius* are figured on Plate XII., fig. 1, 1*a*, copied from the original drawings in the possession of A. Grote, Esq., of Calcutta.

44. No. 67. The larva and pupa of *Amblypodia Timoleon* are figured on Plate XII., fig. 3, 3*a*, copied from the original drawings in the possession of A. Grote, Esq., of Calcutta.

49. No. 81. The larva and pupa of *Myrina Triopas* are figured on Plate XII., fig. 5, 5*a*, from A. Grote, Esq.

No. 82. The larva and pupa of *Myrina Etolus* are figured on Plate XII., fig. 6, 6*a*, from A. Grote, Esq.

52. No. 93. The larva and pupa of *Anops Thetys* are figured on Plate XII., fig. 7, 7*a*, from A. Grote, Esq.

55. Add the following to Stirps II. A :—

PAPILIONII, *pt. Blanchard.*

PAP. PARNASII, *pt. Linnæus.*

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56. No. 99. The larva and pupa of *Callidryas Philippina* are figured on Plate XII., fig. 8, 8*a*, from A. Grote, Esq.

72. No. 138. The larva and pupa of *Pieris Mesentina* are figured on Plate XII., fig. 9, 9*a*, from A. Grote, Esq.; also figured among General Hardwicke's drawings (fig. 89) in the British Museum.

73. No. 142. Add page 103 and plate 44.

74. No. 143. Add page 103 and plate 44.

76. No. 148. Add page 102 and plate 44.

78. No. 153. Add page 102 and plate 44.

79. No. 155. Add page 103 and plate 44.

80. No. 160. The transformations of *Pieris Eucharis* were observed by Captain Mortimer Slater, and are figured on page 396 of his "Notes." "The larva was taken October 1st, changing to a pupa the next day, and the imago emerging on the 13th; the larva feeds upon the *Guava*."

The transformations of this species were also observed by Mrs. Hamilton in Moulmein, in 1853, and are figured among that lady's original drawings, now in the possession of the Entomological Society of London. The "larva was taken on the Lime-tree, December 12."

Also observed by A. Grote, Esq., and figured among his original drawings.

85. Genus *Leptocircus*. Add as syn. LAMPROPTERA, G. R. Gray, Griffith's edit. Cuvier, Ins. II. t. 102, f. 4 (1832).

88. No. 178. "Common at Dacca, 1845, and at Darjeeling, being partial to the feathery scarlet-flowered plant about which they hover, and may be easily caught by the hand, as its flight is heavy."—(Captain Mortimer Slater's Notes, p. 390.)

91. No. 187. The transformations of the female of this species were also observed by Mrs. Hamilton at Moulmein, and figured among that lady's drawings.

97. No. 198. Add page 104 and plate 45.

99. No. 202. Captain Mortimer Slater, in his MS. "Notes," p. 420, remarks: "This butterfly is very active, and difficult to catch, flying in and out of deep forest shades with great velocity, and generally high."

105. No. 211. "Very common throughout the Bengal presidency; the larva feeding on the Lime, Orange, and "Bel" tree, and has the two processes (above the head) very pliable and completely retractile. The scent of these processes is that

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of very rotten oranges, and is overpowering in the extreme, and does not leave the hand, when once infected, for many hours, even after several washings. The larva, when touched, shrugs up its head, and only displays the nauseous filaments when much or repeatedly irritated, and then it endeavours to smear the irritating body by dragging them over and about it."—(Captain Mortimer Slater, MS. "Notes," p. 438.)

The transformations were also observed by A. Grote, Esq., and by Mrs. Hamilton, which lady states that "the larva of this butterfly feeds on the Lime and Citron; the eggs are laid singly on the tips of the leaves, and generally on the upper-side. The larva is at first of a greenish-brown."

113. No. 227. The larva and pupa of *Papilio Eurypylus* are figured on Plate XII., fig. 10, 10*a*, from A. Grote, Esq., of Calcutta.

126. No. 249. The transformations of *Danais Chrysippus* were also observed by Lady Gilbert, and figured in Vol. II., p. 33, of her ladyship's drawings. "Feeds on the Madar, *Asclepias gigantea*. The larva taken July 14th, changing on the 15th, and the imago coming forth on the 23rd."

No. 256. Add specimens *b. c.* ♂. Borneo. Presented by Edwin Shepherd, Esq.

131. No. 262. The transformations of *Euplœa Core* were also observed and figured by Captain Mortimer Slater.

142. No. 288. The larva and pupa of *Junonia Almana* are figured on Plate XII., fig. 12, 12*a*, from A. Grote, Esq., of Calcutta.

163. Genus Neptis. Vide monograph in Proc. Zool. Soc.

167. No. 345. Dele the letter *h* in Jumba*h*.

169. Genus Athyma. Vide monograph in Proc. Zool. Soc.

185. Genus Adolias. Vide monograph in Proc. Zool. Soc., where the new species are figured.

188. No. 379. The larva and pupa of *Adolias Lubentina* are figured on Plate XII., fig. 13, 13*a*, from A. Grote, Esq., of Calcutta.

207. No. 424. The larva and pupa of *Nymphalis Baya* are figured on Plate XII., fig. 14, 14*a*, copied from Mrs. Hamilton's original drawings.

211. No. 431. The larva and pupa of *Discophora Tullia* are figured on Plate XII., fig. 15, 15*a*, from A. Grote, Esq., of Calcutta.

222. No. 461. The transformations of this species also observed

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and figured by Lady Gilbert, who states: "Feeds upon grass. Larva taken August 1st, changing to a pupa on the 5th, and the imago emerging on the 14th."—(Vol. I. p. 41.)

237. No. 511. "Not uncommon at Dacca, 1845. Flies in a weak, hovering manner, generally over the deep damp pits formerly used by the muslin manufacturers, and many years deserted."—(Captain Mortimer Slater's Notes, p. 248.)

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GENERA AND SPECIES.

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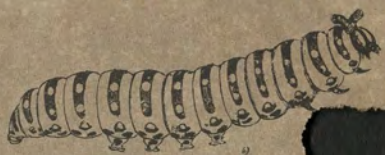
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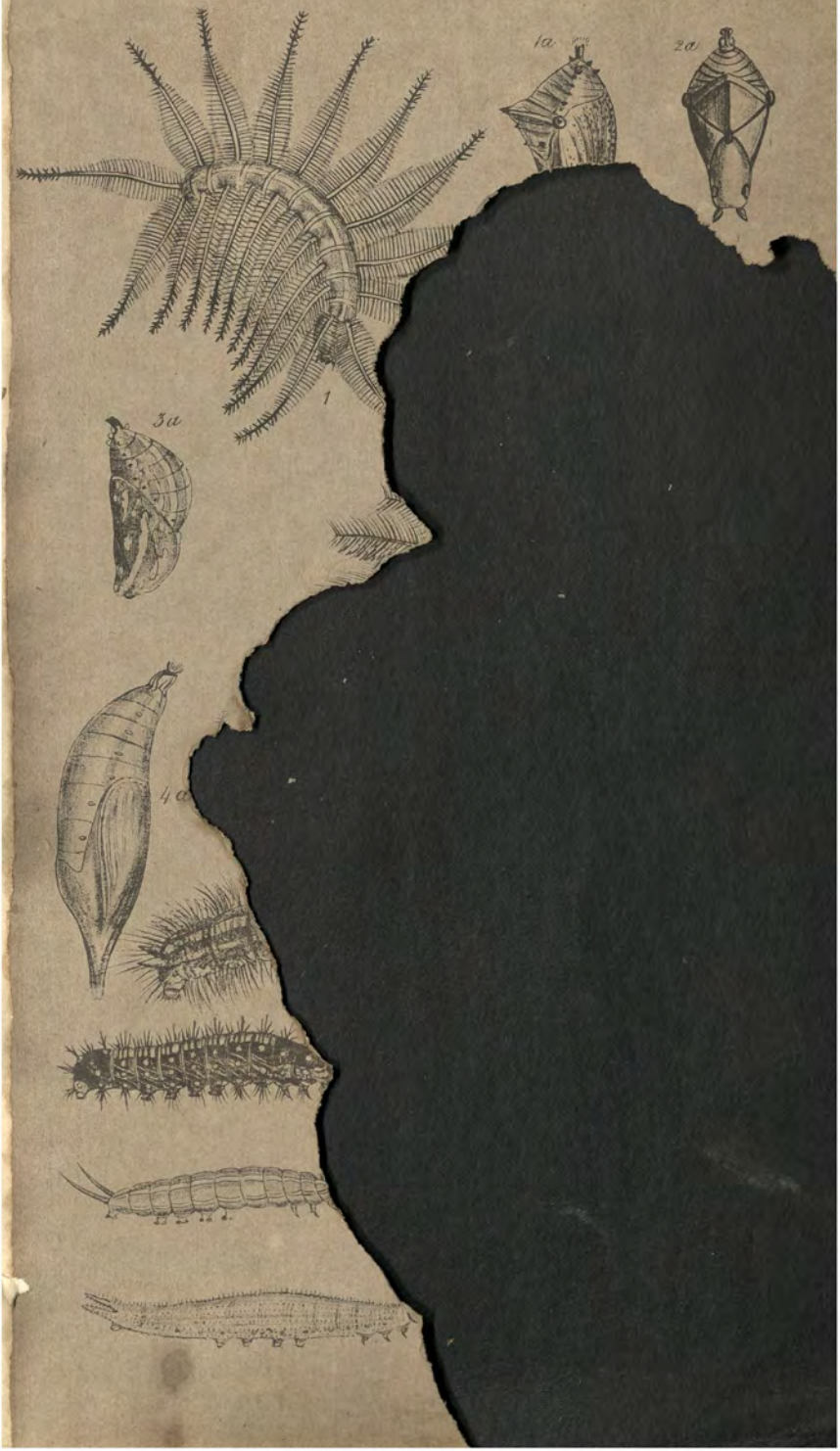

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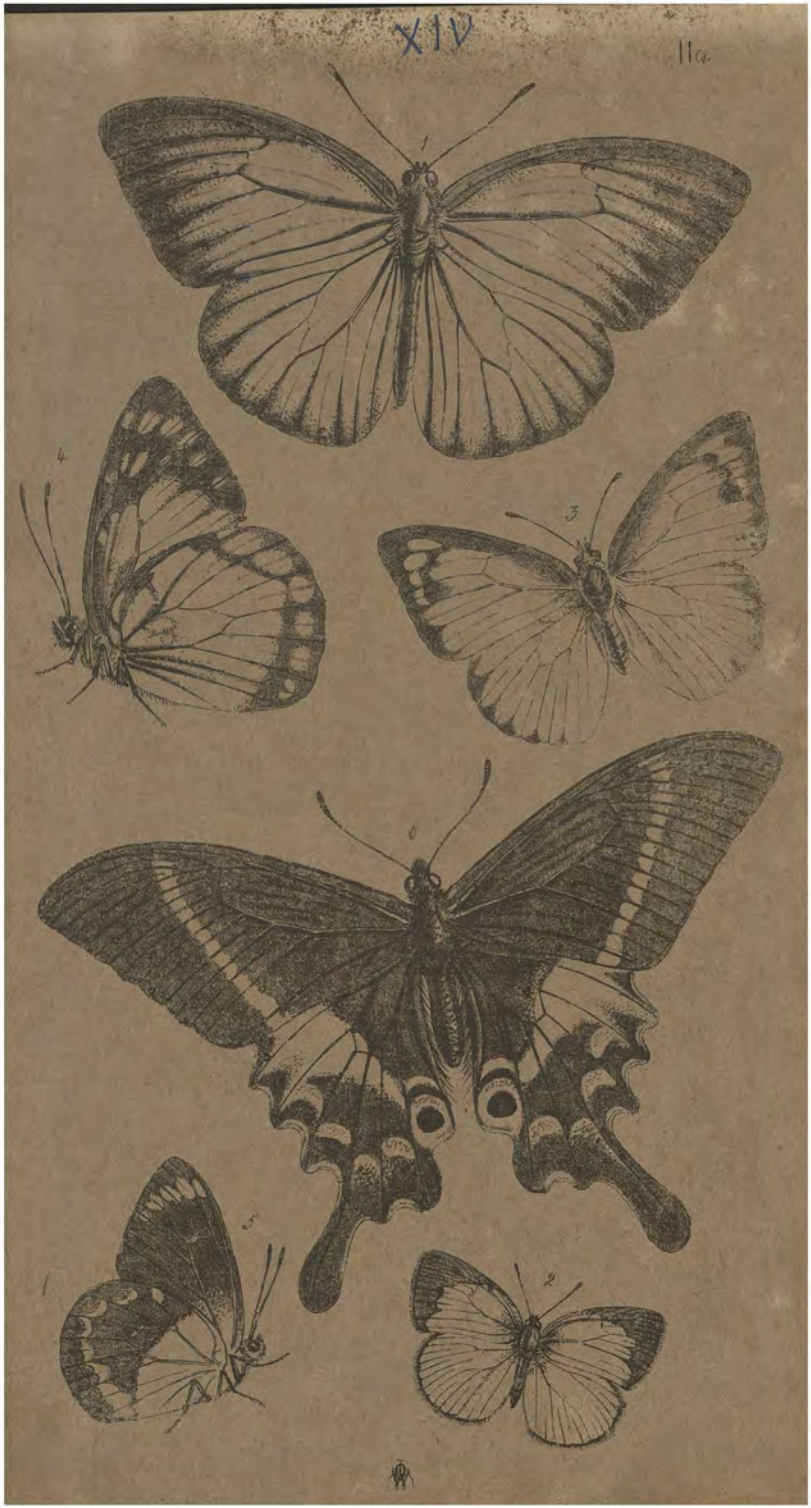

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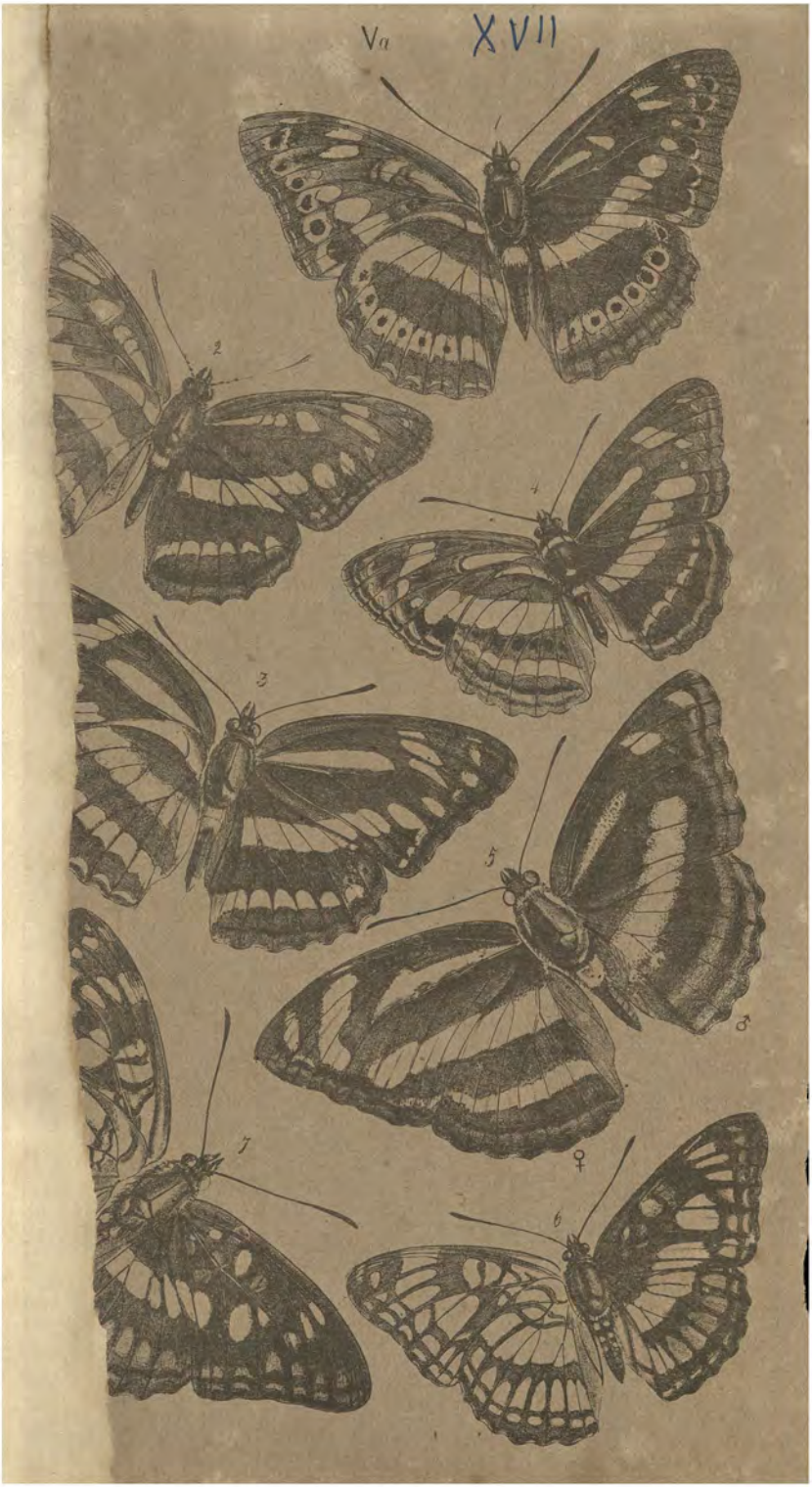
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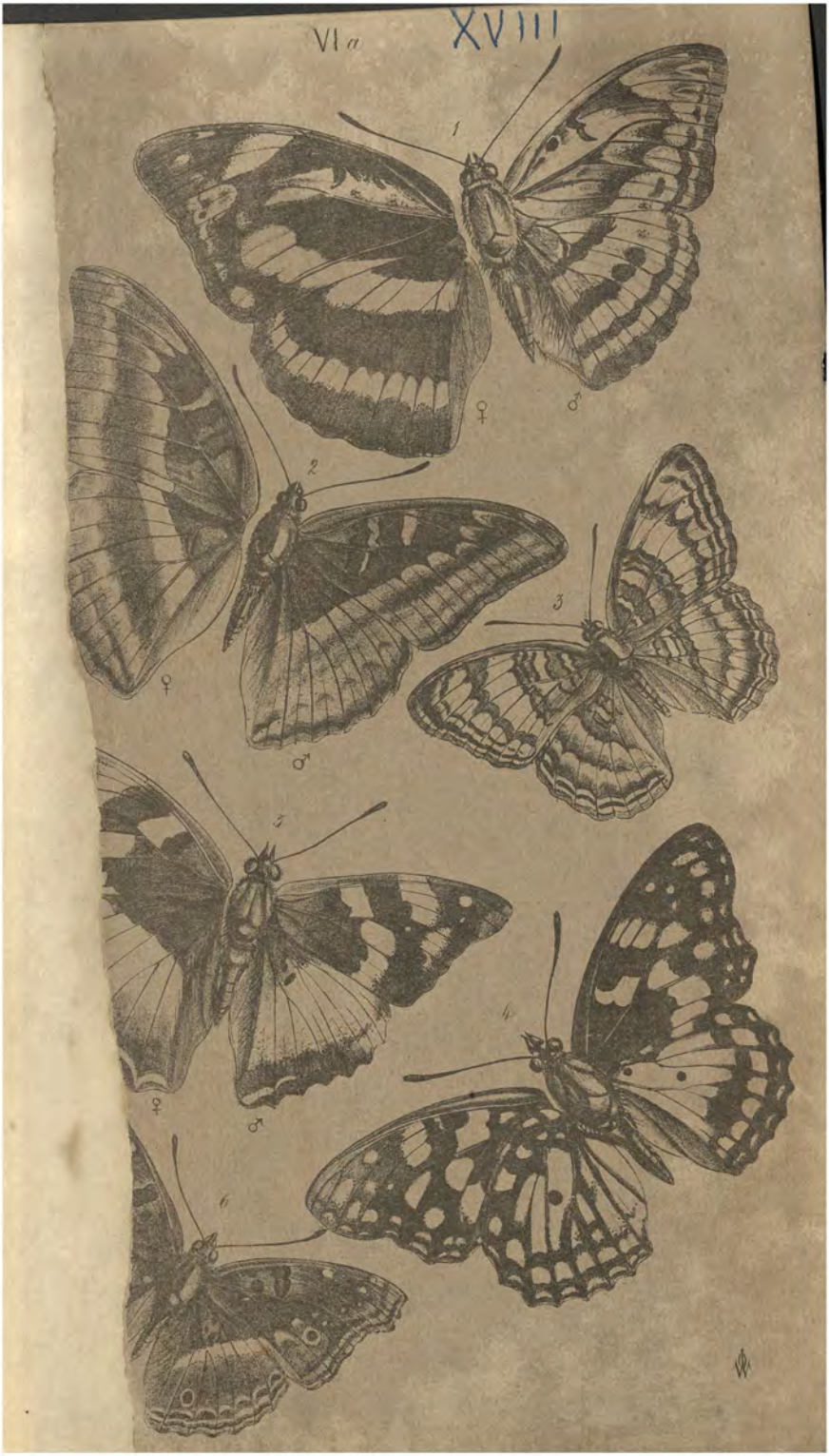

A CATALOGUE

OF THE

LEPIDOPTEROUS INSECTS

IN THE

Museum of Natural History

AT

THE EAST-INDIA HOUSE.

BY

THOMAS HORSFIELD, M. & Ph. D., F.R.S.,

Keeper of the Museum,

AND

FREDERIC MOORE,

Assistant.

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1858–9.

CATALOGUE

OF THE

LEPIDOPTEROUS INSECTS.

Tribe III.—BOMBYCES.

The Bombyces comprise in this Catalogue all those Lepidopterous Insects which, in their metamorphosis, construct a covering or case (folliculus or incunabulum), which is generally called a cocoon. This covering is a characteristic distinction of the whole Tribe, and has in each Species a peculiar form, which is reproduced instinctively with an unvarying uniformity. It is compared very imperfectly to Spinning and Weaving, and the term Spinners or Weavers has been applied to them in the Wiener Verzeichniss. — ("*Zu ihrer Verwandlung spinnen sie ein Gewebe.* Metamorphosis in tela.")

The Bombyces form a distinct tribe, equal in rank to the Papiliones and Sphinges, and are related to the latter by the genera Ægeria, Zygæna, and Eusemia, and to the Noctuidæ by Hepialus.

In their metamorphosis they present different types of form or stirpes, to which the names used in the Wiener Verzeichniss have, in most cases, been appropriated. Their denominations are as follows, viz. :—

Stirps 1. Larvæ Sphingiformes.
„ 2. „ Fasciculatæ.
„ 3. „ Ursinæ.
„ 4. „ Cuspidatæ.
„ 5. „ Verticillatæ.
„ 6. „ Limaciformes.
„ 7. „ Pilosæ.
„ 8. „ Lignivoræ.

It is my duty to inform the Entomological student that the subdivision here proposed is, at the present period, only *provisional*. My materials consist chiefly of the collections made by myself in Java, and of some contributions liberally supplied by my friend A. Grote, Esq., from the neighbourhood of Calcutta, in Continental

India; I desire, therefore, that the work may not be considered as a final subdivision of this Tribe.

It is manifest to all Entomologists that the transformations in this Tribe have, as yet, been very imperfectly observed and recorded; most of those of African, Australian, and American Lepidoptera are a desideratum in science, although those of Europe have been largely illustrated by Hübner. The final subdivision of this Tribe, formed on the Metamorphosis of the several species, remains for some future Entomologist, who may undertake the examination and arrangement of this Tribe with the views applied by Vigors to Birds, and by De Haan to Crustacea.

The most prominent types of form among those above enumerated are the following; viz.—Sphingiformes, Fasciculatæ, Cuspidatæ, Verticillatæ, and Limaciformes, which I enumerate as those Stirpes into which the entire Tribe may be resolved, when more complete materials shall have been obtained.

Respecting the first stirps here proposed, named Sphingiformes, I have to state briefly, that it is divided into three sections. The first section contains the genera allied to the Zygænidæ of authors. Of the genus Eusemia, belonging to this section, we have the larvæ of five species, but unfortunately the cocoon has not been preserved. The second and third sections consist of genera which are variously arranged by authors. In Mr. F. Walker's Catalogue of the Lepidopterous Insects contained in the British Museum, all the genera of our collection are placed in the family of Lithosiidæ; and this determination, formed from the examination of the perfect insect, agrees with the conclusion to which I have arrived from the examination of the metamorphosis. As, however, has been observed, Entomologists entertain different views respecting the natural position of this extensive group. M. Latreille, in the first edition of the Règne Animal, vol. iii. p. 570, has the following remark:—

"Les *Lithosies* de Fabricius paraissent, sous plusieurs rapports naturels, avoisiner les Lépidoptères de cette tribu (les *Callimorphes*); mais nous les placerons, à raison de leur forme étroite et allongée, dans la tribu des *Tinéites*, comme avait fait Linnæus."

Mr. Stephens places them among his Lepidoptera Nocturna (Brit. Ent. ii. p. 88). By Mr. Westwood they form the eighth family of his subdivision of the Heterocera, and he mentions their close affinity to the aberrant Arctiidæ.

Tribe III. BOMBYCES.

Bombycidæ, *Horsfield, Catal. Lep. Mus. E.I.C. pp.* 20, 24, 27 (1828).

Phalænæ, *sect.* I., Bombyces, *Denis et Schiffermüller, Systematischer Verzeichniss der Schmetterlingen der Wiener Gegend (generally quoted as the Wien. Verz.), p.* 48 (1776).

Sphinges *et* Noctuæ, *pt. Denis et Schiffermüller*, id. *pp.* 43, 67.

Phalæna, *sect.* I. II., Attaci *et* Bombyces, *et sect.* III. Noctuæ, *pt. Linn., S. N. I. pt.* II. *pp.* 808-9 (1767).

Sphinx, *sect.* 3, *pt. et* 4, *Linnæus* (1767).

Bombyx, *pt. et* Sphinx, *div.* II., Serik, *pt. Haworth, Lep. Brit. pp.* 56, 65, 67 (1803).

Lep. Crepuscularia, *pt. et* Lep. Nocturna, *pt. Latreille, Gén. Crust. et Ins.* IV. *pp.* 187, 189, 209, 216 (1809). *Stephens, Ill. Brit. Ins. Haust.* I. *p.* 104 (1828); id. II. *pp.* 1, 86 (1829); id. *Catal. Brit. Lep. Brit. Mus. pp.* 24, 34 (1850).

Fusicornes *seu* Clostrocères, *pt.*, Filicornes *seu* Nematocères, *et* Seticornes *seu* Chetocères, *pt. Dumeril, Consid. Gén. des Ins. p.* 139 (1823).

Lep. Pomeridiana *et* Lep. Semidiurna, *pt. Stephens, Ill. Brit. Ins. Haust.* II. *p.* 2 (1829); III. *p.* 140 (1831); IV. *p.* 3 (1834); id. *Catal. Brit. Lep. Brit. Mus. pp.* 34, 156 (1850).

Heterocera, *pt. Boisduval et Leconte, Icon. Lép.* I. *p.* 39 (1836). *Boisduval, Ind. Méth. p.* 39 (1840). *Westwood, Introd.* II. *p.* 363 (1840). *Stephens, Catal. Brit. Lep. Brit. Mus. pt.* I. *p.* 24 (1850). *Walker, Catal. Lep. Het. Brit. Mus. pt.* I. *p.* 1 (1854). *Stainton, Ins. Brit. Lep. Tineina, p.* 2 (1855); id. *Manual Brit. Lep. p.* 72 (1856).

Chalinoptera, *pt. Blanchard, Hist. Nat. des Ins.* II. *pp.* 322, 340 (1845). *Chenu, Enc. d'Hist. Nat. Pap. p.* 232.

Bombycites, Noctuo-Bombycites, *pt.* Phalænites, *pt. et* Tineites, *pt. Latreille, Gén. Crust. et Ins.* IV. *pp.* 190, 191, 216, 219, 226 (1809).

Sphinges, *pt. Hübner, Zuträge, p.* 4 (1818). *H. Doubleday, List Brit. Lep. p.* 3 (1850).

Sphingina, *pt. Stainton, Ins. Brit. Lep. Tineina, p.* 2 (1855); id. *Manual Brit. Lep. p.* 72 (1856).

STYGIARIÆ *et* SESIARIÆ, *pt. Boisduval, Ind. Méth. pp.* 30, 41 (1840).

ANTHROCERIDÆ *et* Fam. IV. *to* VIII. *Westwood, Introd. pp.* 371, 390 (1840).

ZYGÆNIDES, *Duncan, in Brewster's Edinb. Encyclop. IX. p.* 131 (1830). *Walker, List Lep. Het. Brit. Mus. pt.* I. *p.* 62 (1854).

ZYGÆNIDES *et* Tribes XV. *to* XXV., *Boisduval, Ind. Méth. pp.* 50, 84 (1840).

ZYGÆNII *et* BOMBYCII, *Blanchard, Hist. Nat. des Ins.* II. *pp.* 323, 353, 360 (1845).

SESII, *pt.*, *et* CASTNII, *pt. Blanchard, Hist. Nat. des Ins.* II. *pp.* 323, 349, 351 (1845). *Walker, List Lep. Het. Brit. Mus. pt.* I. *pp.* 2, 10 (1854).

ÆGERII, *Walker, List Lep. Het. Brit. Mus. pt.* VIII. *p.* 1 (1856).

PHALÆNÆ, *Hübner, Zuträge, p.* 4 (1818). *Newman, Sph. Vesp. pp.* 38, 40 (1832).

BOMBYCIDES, *Duncan, in Brewster's Edinb. Encyclop. IX. p.* 131 (1830). *Swainson, Cabinet Cyclop. Ins. p.* 106 (1840). *Blanchard, Hist. Nat. des Ins.* II. *p.* 361 (1845).

PHALÆNINA, *et* PYRALINA, *pt. Newman, Ent. Mag.* II. *pp.* 383, 384 (1834).

BOMBYCES, *H. Doubleday, List Brit. Lep. p.* 3 (1850).

BOMBYCINA, *Stainton, Ins. Brit. Lep. Tineina, p.* 2 (1855); id. *Manual Brit. Lep. pp.* 72, 107 (1856). *Newman, Trans. Ent. Soc.* IV. *n. s. p.* 55 (1857).

BOMBYCITES, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 277 (1854).

NOCTUIDÆ, *pt.* (*Stirps* II. *et* III.), *Horsfield, Catal. Lep. Mus. E.I.C. pp.* 28, 29, 30 (1828).

Stirps I. Larvæ SPHINGIFORMES.

SPHINX, *sect.* 3, *pt. et* 4, *Linnæus, S. N.* I. II. (1767).

SPHINX, *sect.* SESIÆ, *pt. Gmelin. Haworth.*

SPHINX, *sect.* ZYGÆNÆ, *Gmelin.*

SPHINGES, *pt.* (*larvæ F. G.*), *Denis et Schiffermüller, Wien. Verz. p.* 43 (1776).

ZYGÆNIDES, *pt. Latreille* (1809).

PHALÆNA, *sect.* ATTACI, *et* NOCTUÆ, *pt. Linnæus.*

The *first Stirps*, named *Sphingiformes*, present in their transformations three different sections, the first section forming a natural junction with the SPHINGES.

SECTION I.

Larva elongate, uniformly cylindrical; or, as in *Agarista* and *Eusemia*, with an anal prominence, subpilose. Metamorphosis:—Cocoon of a loose silken texture. The perfect insect has long wings, which in most cases are maculated with bright colours; flies by day; antennæ fusiform, or moderately bipectinated, curved outward at the apex; proboscis short; abdomen long and attenuate.

SPHINX, *sect.* 3 *et* 4, *pt. Linnæus, S. N.* I. II. *p.* 796 (1767).

SPHINX, *sect.* SESIÆ, *pt. et* ZYGÆNÆ, *Gmelin, S. N.* I. V. *pp.* 2386, 2390.

SPHINX, *div.* SESIÆ, *sect. Denudatæ, subsect.* 2, 3, *Haworth, Lep. Brit. pp.* 55, 65 (1803).

SPHINGES (*larvæ F. G. pt.*), *Denis et Schiffermüller, Wien. Verz. p.* 43 (1776).

NOCTUIDÆ, *pt.* (*Stirps* III. *Fasciata pt.*), *Horsfield, Catal. Lep. Mus. E.I.C. pp.* 29, 30 (1828).

ZYGÆNIDES, *pt. Latreille, Gén. Crust. et Ins.* IV. *pp.* 189, 211 (1809). *Boisduval, Ind. Méth. p.* 50 (1840). *Walker, List Lep. Het. Brit. Mus. pt.* I. *p.* 62 (1854).

ZYGÆNIDÆ, *Leach, Edinb. Encycl. p.* (1815).

SPHINGES, *pt. Hübner, Zuträge, p.* 4 (1818). *Newman, Sph. Vesp. p.* 35 (1832). *H. Doubleday, List Brit. Lep. p.* 3 (1850).

ÆGERIIDÆ, *Stephens, Ill. Brit. Ins. I.* [illegible] (1828); id. *Catal. Brit. Lep. Brit. Mus. p.* 30 [illegible] *Stainton, Manual Brit. Lep. pp.* 75, 100 (1856). *Westwood, Introd.* [illegible] *p.* 373 (1840). *Walker, List Lep. Het. Brit. Mus. pt.* VIII. *p.* 7 (1856).

ZYGÆNIDÆ, *pt. Stephens, Ill. Brit. Ins.* [illegible] (1828); id. *Catal. Brit. Lep. Brit. Mus. p.* 24 (1850). *Swainson, Cabinet Cyclop. p.* 102 (1840). *Stainton, Manual Brit. Lep. pp.* 75, 76 (1856).

COSSI, *pt.* ÆGERIÆ, *et* ZYGÆNÆ, *Newman, Spec. Lep. pp.* 35, 36, 41 (1832).

STYGIIDÆ, ÆGERIITES *et* GLAUCOPITES, *pt. Newman, Entom. Mag. I. p.* 67 (1832); II. *p.* 384 (1834); id. *History of Ins. 2nd edit. p.* 213 (1841).

URANIIDÆ, *pt. et* ANTHROCERIDÆ, *pt. Westwood, Introd. II. pp.* 369, 371 (1840).

STYGIARIÆ *et* SESIARIÆ, *pt. Boisduval, Ind. Meth. pp.* 39, 41 (1840).

AGARISTIDÆ, *Swainson, Cabinet Cyclop. p.* 102 (1840).

TROCHILIIDÆ, *Westwood, Brit. Butt. I. p.* 32 (1842).

SESIIDES, CHIMERIDES, *et* ZYGÆNITES, *pt. Blanchard, Hist. Nat. des Ins. II. pp.* 352, 354 (1845).

AGARISTITES *et* CASTNITES, *pt.* HEPIALIDES, *pt. Blanchard, Hist. Nat. des Ins. II. pp.* 350, 364 (1845).

STYGIIDÆ, *Walker, List Lep. Het. Brit. Mus. pt.* VIII. *p.* 1 (1856).

SESIOIDEA, ZYGÆNOIDEA, *et* AGARISTOIDEA, *Herr. Schäffer, Lep. Exot. Spec. Nov. pp.* 57, 71 (1858).

Genus MELITTIA, *Hübner.*

MELITTIA, *Hübner, Verz. bek. Schmett. p.* 128 (1816).

646. *MELITTIA BOMBYLIFORMIS, Cramer Sp.*

Sphinx Bombyliformis, *Cramer, Pap. Exot. IV. p.* 241, *pl.* 400, *f. C.* (1782).

Melittia Bombyliformis, *Walker, List Lep. Het. Brit. Mus. pt.* VIII. *p.* 69 (1856).

Melittia Anthedoniformis, *Hübner, Verz. bek. Schmett. p.* 128.

Trochilium Phorcus, *Westwood, Cabinet Orient. Ent. p.* 62, *pl.* 30, *f.* 7 (1847).

a. b. Java. From Dr. Horsfield's Collection.

647. *MELITTIA EURYTION, Westwood Sp.*

Trochilium Eurytion, *Westwood, Cabinet Orient. Ent. p.* 62, *pl.* 30, *f.* 5 (1847).

Melittia Eurytion, *Walker, List Lep. Het. Brit. Mus. pt.* VIII. *p.* 70 (1856).

a. Java. From Dr. Horsfield's Collection.

b. N. India. From Capt. Harrington's Collection.

Genus PARANTHRENE, *Hübner.*

Paranthrene, *Hübner, Verz. bek. Schmett. p.* 128 (1816). *Walker, List Lep. Het. Brit. Mus. pt.* VIII. *p.* 13.

Memythrus, *Newman, Ent. Mag.* I. *p.* 85 (1832).

648. *PARANTHRENE SESIIFORMIS, Moore.*

Paranthrene Sesiiformis, n. sp.—Male, *fore-wings* brown, tinged with purple; *hind-wings* limpid; ciliæ brown; antennæ slightly pectinated. *Body* rich dark purple-brown; *palpi* in front, and a narrow band round the neck yellow; *abdomen* with a deep yellow spot on the side of all the segments, except the third, each segment also having a narrow red and blue line below the yellow spot; apical tuft blackish, yellow in the middle and at the sides; *legs* blackish, the tibia of the fore-legs and tibia and tarsi of the hind-legs yellowish. Allied to *P. Vespipennis*, Boisd., from China. Length of the body $\frac{8}{12}$ in.; across the wings 1 in.

a. b. Java. From Dr. Horsfield's Collection.

Genus ZYGÆNA, *Fabricius.*

Zygæna, *Fabricius, Syst. Ent. p.* 550 (1775); *Syst. Gloss.* (*Illiger's Mag.* IV. 1807).

Anthrocera, *Scopoli, Intr. Hist. Nat.* I. *p.* 414 (1777).

649. *ZYGÆNA CASHMIRENSIS, Kollar.*

Zygæna Cashmirensis, *Kollar, in Hügel's Kaschmir, IV. pt. II. p. 459, pl. 19, f. 6 (1844). Walker, List Lep. Het. Brit. Mus. pt. I. p. 102.*

a. N. India. Presented by Colonel Buckley.

650. *ZYGÆNA AFGHANA, Moore (Plate VIII. a. fig. 1).*

Zygæna Afghana, n. sp.—Fore-wing with four red spots; the first large, quadrate near the base, occupying the space from anterior to posterior margin; the second outwardly oblique across the middle of the wing; the third small near anterior margin; the fourth oblong near the apex: all the spots margined with yellowish white. *Hind-wing* red, with narrow black margin near the apex. *Body* with a circle round the neck; shoulders and abdomen red. Expanse of wings $1\frac{1}{12}$ in.

a. b. Afghanistan. From Griffith's Collection.

Genus ÆGOCERA, *Latreille.*

ÆGOCERA, *Latreille, Gén. Crust. et Ins. IV. p. 211 (1809). Walker, List Lep. Het. Brit. Mus. pt. I. p. 55.*

651. *ÆGOCERA VENULIA, Cramer Sp.*

Phalæna Noctua Venulia, *Cramer, Pap. Exot. II. p. 107, pl. 165, f. D (1779).*

Ægocera Venulia, *Latreille, Gén. Crust. et Ins. IV. p. 211. Dalman, Anal. Ent. p. 49. Boisduval, Monogr. Zyg. p. 13, pl. 1, f. 3. Chenu, Enc. d'Hist. Nat. Pap. p. 236, f. 404. Crochard, ed. Règn. Anim. Atlas, Ins. pl. 148, f. 1. Walker, List Lep. Het. Brit. Mus. pt. I. p. 55.*

Bombyx Venulia, *Fabricius, Suppl. Ent. p. 158.*

a. b. c. ♂ ♀. Bengal. From the Asiatic Society of Bengal.

d. e. f. ♂ ♀. N. India. Presented by General Hearsey.

652. *ÆGOCERA BIMACULA, Walker.*

Ægocera Bimacula, *Walker, List Lep. Het. Brit. Mus. pt. I. p. 57 (1854).*

a. Canara. Presented by S. N. Ward, Esq.

b. N. India. Presented by General Hearsey.

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653. *EUSEMIA VETULA, Hübner Sp.*

Heraclia Vetula, *Hübner, Geyer, Zuträge, Samml. Exot. Schmett. pt.* III. *p.* 17, *f.* 657-658 (1832).

a. b. c. Java. From Dr. Horsfield's Collection.

d. e. Assam. Presented by Col. Buckley.

654. *EUSEMIA MACULATRIX, Westwood.*

Eusemia maculatrix, *Westwood, Nat. Libr. Exot. Moths, p.* 88. *Cabinet Orient. Ent. p.* 67, *pl.* 33, *f.* 1 (1847). *Walker, List Lep. Het. Brit. Mus. pt.* I. *p.* 47.

Eusemia fasciatrix, *Westwood, Cabinet Orient. Ent. p.* 67.

a. b. c. d. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

655. *EUSEMIA DENTATRIX, Westwood.*

Eusemia dentatrix, *Westwood, Cabinet Orient. Ent. p.* 68, *pl.* 33, *f.* 5 (1847). *Walker, List Lep. Het. Brit. Mus. pt.* I. *p.* 46.

a. Bootan. From Pemberton's Collection.

b. c. d. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

656. *EUSEMIA BISMA, Moore.*

Eusemia maculatrix, var. *η*, *Walker, List Lep. Het. Brit. Mus. pt.* I. *p.* 48.

Eusemia Bisma, n. sp.—Black, allied to *E. maculatrix*, but differs by the *fore-wing* having only two maculated bands, the first composed of two yellow spots, the second of six rather large elongated subfusiform white spots. *Hind-wings* red, anterior spot dentate, discal spot emitting two lines to the outer border, the latter containing three and sometimes two smaller white dots. Expanse 3 in.

The larva and pupa of *Eus. Bisma* are figured on Plate XIII.,

figs. 1, 1*a*, from Java. "Feeds on the *Uwi* (*Dioscorea oppositifolia*). Very scarce. December and January. Difficult to feed and raise." —(Horsfield, MS.)

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

657. *EUSEMIA ADULATRIX, Kollar.*

Eusemia adulatrix, *Kollar, in Hügel's Kaschmir*, IV. *pt.* II. *p.* 464, *pl.* 20, *f.* 1 (1844).

Eusemia Bellatrix, *Westwood, Cabinet Orient. Ent. p.* 67, *pl.* 33, *f.* 2 (1847). *Walker, List Lep. Het. Brit. Mus. pt.* I. *p.* 46.

a. N. India. From the Asiatic Society of Bengal.

b. c. N. India. Presented by Col. Buckley.

d. N. India. Presented by General Hearsey.

e. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

658. *EUSEMIA CONNEXA, Walker.*

Eusemia connexa, *Walker, List Lep. Het. Brit. Mus. pt.* VII. *p.* 1773 (1856).

a. b. c. d. e. f. ♂ ♀. Java. From Dr. Horsfield's Collection.

659. *EUSEMIA ARUNA, Moore.*

Eusemia Aruna, n. sp.—Fore-wing black, with two pale-yellow maculated bands, the first of four interrupted spots one-third from the base, the second of four smaller spots one-third from the apex. *Hind-wing* broadly at the base, with small dentate spot, and broad exterior band black, the inner transverse space being deep ochrey-yellow. Ciliæ at apex of fore-wing and whole length of hind-wing white. Body black; face, chest, and abdominal bands ochrey-yellow. Expanse of wings 3 in.

a. ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

660. *EUSEMIA VICTRIX, Westwood.*

Eusemia Victrix, *Westwood, Cabinet Orient. Ent. p.* 67, *pl.* 33, *f.* 3 (1847). *Walker, List Lep. Het. Brit. Mus. pt.* I. *p.* 52.

a. Bootan. From Pemberton's Collection.
b. c. Cherra Poonjee. Presented by Col. Buckley.
d. e. f. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

661. *EUSEMIA AMATRIX, Westwood.*

Eusemia amatrix, *Westwood, Cabinet Orient. Ent. p.* 68, *pl.* 33, *f.* 4 (1847). *Walker, List Lep. Het. Brit. Mus. pt.* I. *p.* 49.

a. b. c. d. Java. From Dr. Horsfield's Collection.

The larva and pupa of *Eus. amatrix* are figured on Plate XIII. figs. 2, 2*a*, from Java. "Feeds on a species of *Cissus*, bearing the native name of *Chiching* or *Jijing*. December."—(Horsfield, MS.)

662. *EUSEMIA BELANGERI, Guérin-Méneville.*

Eusemia Belangerii, *Guérin-Méneville, Voy. de Belanger, Atlas Ins. pl.* 5, *f.* 3 ( ).
Eusemia amatrix, var. *a. Walker, List Lep. Het. Brit. Mus. pt.* I. *p.* 49.

a. b. Java. From Dr. Horsfield's Collection.

663. *EUSEMIA PESHWA, Moore* (*Pl.* VII*a.*, *fig.* 2).

Eusemia Peshwa, n. sp.—Dark brown, *fore-wing* with three pale yellow spots; the first small, quadrate, basal; the second larger, somewhat oval; the third still larger, and concave exteriorly; and some metallic marks between the spots. *Hind-wing* with abdominal margin ochrey-yellow, and a pale yellow discal spot. Ciliæ at apex of each wing white; thorax dark brown; top of head, front of palpi, a spot at each side and at base of thorax pale yellow; abdomen, body beneath, and legs ochrey-yellow; a line down base of abdomen, and narrow bands to the segments, black; all the tarsi, and two spots on the fore-tibia, black; the fore-tarsi pale yellow at each point. Expanse of wings 1¾ in. to 2¼ in.

a. N. India. Presented by Col. Buckley.
b. Ceylon. From M. E. Jonville's Collection.

664. *EUSEMIA LUCTIFERA, Boisduval Sp.*

Agarista luctifera, *Boisduval, Spéc. Gén. Lép.* I. *pl.* 14, *f.* 4 (1836). *Walker, List Lep. Het. Brit. Mus. pt.* I. *p.* 53.

a. Java. From Dr. Horsfield's Collection.

665. *EUSEMIA BASALIS, Walker.*

Eusemia basalis, *Walker, List Lep. Het. Brit. Mus. pt.* I. *p.* 53 (1854).

a. ♀. N. India. Presented by Colonel Buckley.

The larva and pupa of *Eus. basalis* are figured on Plate XIII., figs. 3, 3*a*, copied from the original drawings in the collection of A. Grote, Esq.

"Feeds on *Dillenia*."—(Grote, MS.)

666. *EUSEMIA MILETE, Cramer Sp.*

Phalæna-Noctua Milete, *Cramer, Pap. Exot.* I. *p.* 26, *pl.* 18, *f. D* (1779).

Eusemia Melite, *Walker, List Lep. Het. Brit. Mus. pt.* I. *p.* 53 (1854).

a. b. c. d. e. f. g. ♂ ♀. Java. From Dr. Horsfield's Collection.

The larva and pupa of *Eus. Milete* are figured on Plate XIII., figs. 4, 4*a*, from Java. "Feeds on a species of *Cissus*, bearing the native name of *Galing*. December to February. Abundant."—(Horsfield, MS.)

667. *EUSEMIA TRANSIENS, Walker.*

Eusemia transiens, *Walker, List Lep. Het. Brit. Mus. pt.* VII. *p.* 1588 (1856).

a. b. ♂. Java. From Dr. Horsfield's Collection.

c. d. e. f. g. h. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

The larva and pupa of *Eus. transiens* are figured on Plate XIII., figs. 5, 5*a*, from Java. "Feeds on the *Galing* (*Cissus?*). December."—(Horsfield, MS.)

Genus CLEOSIRIS, *Boisduval.*

Cleosiris, *Boisduval, Spéc. Gén. Lép.* I. *pl.* 23, *f.* 3 (1836).

Tetragonus, *pt. Hübner.*

668. *CLEOSIRIS CATAMITA, Hübner Sp.*

Tetragonus Catamitus, *Hübner, Geyer, Zuträge, pt.* IV. *p.* 17, *f.* 653, 654 (1832).

Cleosiris Catamita, *Boisduval, Spéc. Gén. Lép. pl.* 23, *f.* 3. *Westwood, in Doubleday and Hewitson's Diurnal Lep. p.* 504, *pl.* 77, *f.* 9.

a. b. Java. From Dr. Horsfield's Collection.

SECTION II.

Larva either slightly tuberculate, hairy, with a prominence on the third or fourth segment and on the anal extremity, or more regularly cylindrical and hairy. Metamorphosis:— Cocoon large, oval, the interior being cellular, or consisting of a delicate filiform web. The perfect insect has long narrow wings; flies by twilight and darkness; antennæ setaceous, or more or less bipectinated; proboscis short; abdomen slender.

PHALÆNA, *sect.* III. NOCTUÆ, *pt. Linnæus, S. N.* I. II. *pp.* 809, 823 (1767).

NOCTUÆ, *pt.* (*Larva C. fusiformes*), *Denis et Schiffermüller, Wien. Verz. p.* 67 (1776).

NOCTUIDÆ, *pt.* (*Stirps* II. *et* III. *pt.*), *Horsfield, Catal. Lep. Mus. E.I.C. pp.* 28, 30 (1828).

NOCTUO-BOMBYCITES, *pt. et* TINEITES, *pt. Latreille, Gén. Crust. et Ins.* IV. *pp.* 190, 219 (1809).

TINEIDA, *pt. Duncan, in Brewster's Edinb. Encycl.* IX. *p.* 133 (1830).

LITHOSIIDÆ, *Stephens, Ill. Brit. Ins. Haust.* II. *p.* 88 (1829); id. *Catal. Brit. Lep. Brit. Mus. p.* 59 (1850). *Westwood, Introd.* II. *p.* 390 (1840). *Stainton, Manual Brit. Lep. pp.* 107, 135 (1856).

LITHOSIÆ, *Hübner, Zuträge, p.* 4 (1818). *Newman, Sph. Vesp. p.* 43 (1832).

ARCTIITES, *pt. Newman, Entom. Mag.* II. *p.* 383 (1834); id. *Hist. of Ins. 2nd edit. p.* 212 (1841).

LITHOSIADÆ, *Swainson, Cabinet Cyclop. p.* 106 (1840).

LITHOSIDES, *Boisduval, Ind. Méth. p.* 56 (1840).

LITHOSIITES, *pt. Blanchard, Hist. Nat. des Ins.* II. *pp.* 362, 363 (1845).

LITHOSIIDÆ, *pt. Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 279 (1854).

HYPSIDÆ, LITHOSIIDÆ, *et* CALLIMORPHIDÆ, *Walker*, id. *pt.* VII. *pp.* 1673, 1677, 1683 (1856).

CHELONARII, *Boisduval.*

Chelonidæ, *pt. Stainton, Manual Brit. Lep. pp.* 107, 142 (1856).
Lithosina *et* Aganaidea, *Herr. Schäffer, Lep. Exot. Spec. Nov. pp.* 69, 70 (1858).

Genus HYPSA, *Hübner.*

Hypsa *et* Damalis, *Hübner; Verz. bek. Schmett. p.* 172 (1816). *Walker, List Lep. Het. Brit. Mus. pt.* II. *pp.* 444, 457.
Aganaides *et* Aganais, *Boisduval, Faun. Ent. de Madag. etc., Lép. p.* 96; *Voy. de l'Astrolabe, Lép. pt.* I. *p.* 248 (1832).
Aspa *et* Lacides, *Walker, List Lep. Het. Brit. Mus. pt.* II. *pp.* 452, 456 (1854).
Phalæna-Noctua, *pt. Linnæus.*
Phalæna-Bombyx, *pt. Fabricius.*
Rhodogastria, *pt. Hübner.*

669. *HYPSA ALCIPHRON, Cramer Sp.*

Phalæna-Attacus Alciphron, *Cramer, Pap. Exot.* II. *p.* 58, *pl.* 133, *f. E* (1779).
Noctua Caricæ, *Fabricius, Ent. Syst.* II. III. *p.* 27 (1793). *Donovan, Epit. Ins. of New Holl. pl.*
Damalis Caricæ, *Hübner, Verz. bek. Schmett. p.* 172.
Aganais Caricæ, *Boisduval, Voy. de l'Astrolabe, Lép. pt.* I. *p.* 248.
Hypocrita Caricæ, *Hübner, Samml. Exot. Schmett.* I. *f.* 1–4.
Hypsa (Damalis) Caricæ, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 454.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.
e. f. ♂ ♀. N. India. Presented by Col. Buckley.
g. h. i. j. ♂ ♀. Canara. Presented by S. N. Ward, Esq.

The larva and pupa of *Hypsa Alciphron* are figured on Plate XIII., figs. 6, 6*a*, from Java. "Feeds on a species of *Ficus*, bearing the native name of *Luwing*. December to February. Rather common. Cocoon slight, affixed to a leaf."—(Horsfield, MS.)

670. *HYPSA EGENS, Walker.*

Hypsa (Damalis) egens, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 453 (1854).

a. b. c. d. ♂ ♀, and pupa. Java. From Dr. Horsfield's Collection.

e. ♀. Penang. Presented by Dr. Cantor.

f. ♀. Bootan. From Pemberton's Collection.

The larva and pupa of *Hypsa egens* are figured on Plate XIII., figs. 7, 7*a*, from Java. "Feeds on a species of *Ficus*, bearing the native name of *Pre*. March."—(Horsfield, MS.)

671. *HYPSA FICUS, Fabricius Sp.*

Noctua Ficus, *Fabricius, Ent. Syst.* III. *p.* 27 (1793).

Hypsa (Lacides) Ficus, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 456.

Damalis Ficus, *Hübner, Verz. bek. Schmett. p.* 172.

Phalæna-Attacus Alciphron, *apud Cramer, Pap. Exot.* III. *pl.* 262, *f. A. B.* (*nec. pl.* 133, *f. E.*).

a. b. c. ♂ ♀. N. India. Presented by Col. Hearsey.

d. e. f. ♂ ♀. Canara. Presented by S. N. Ward, Esq.

The larva of *Hypsa Ficus* is figured on Plate XIII., figs. 8, 8*a*, copied from the original drawing made by Lady Isabella Rose Gilbert.

672. *HYPSA HELICONIA, Linnæus Sp.*

Phalæna-Noctua Heliconia, *Linnæus, Syst. Nat.* I. II. *p.* 839 (1767); *Mus. Lud. Ulr. p.* 384.

Hypsa (Aspa) Heliconia, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 452.

Hypsa Heliconia, *Hübner, Verz. bek. Schmett. p.* 172.

a. ♀. N. India. From Mr. Argent's Collection.

673. *HYPSA SILVANDRA, Cramer Sp.*

Phalæna-Bombyx Silvandra, *Cramer, Pap. Exot.* IV. *p.* 155, *pl.* 369, *f. D.* (1782).

Hypsa Silvandra, *Hübner, Verz. bek. Schmett. p.* 172.

Hypsa (Hypsa) Silvandra, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 450.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. ♂. Penang. Presented by Dr. Cantor.

674. *HYPSA MONYCHA, Cramer Sp.*

Phalæna-Attacus Monycha, *Cramer, Pap. Exot.* II. *p.* 52, *pl.* 131, *f. C.* (1779).

Hypsa (Hypsa) Monycha, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 451.

a. b. ♂ ♀. Cherra Poonjee. Presented by Colonel Buckley.

675. *HYPSA PLANA, Walker.*

Hypsa (Hypsa) plana, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 450 (1854).

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

The larva and pupa of *Hypsa plana* are figured on Plate XIII., figs. 9, 9*a*, from Java. "Feeds on a species of *Ficus*, bearing the native name of *Luwing*. January, abundant, but scarce after that month."—(Horsfield, MS.)

Genus PHILONA, *Walker.*

Hypsa (Philona), *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 456 (1854).

676. *PHILONA INOPS, Walker.*

Hypsa (Philona) inops, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 457 (1854).

a. Java. From Dr. Horsfield's Collection.

b. Silhet. Presented by the Trustees of the British Museum.

c. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

Genus NEOCHERA, *Hübner.*

Neochera, *Hübner, Verz. bek. Schmett. p.* 173 (1816).

Hypsa (Neochera), *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 448.

677. *NEOCHERA DOMINIA, Cramer Sp.*

Phalæna-Bombyx Dominia, *Cramer, Pap. Exot.* III. *p.* 123, *pl.* 263, *f. A. B.* (1782).

Neochera Dominia, *Hübner, Verz. bek. Schmett. p.* 173.

Hypsa (Neochera) Dominia, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 448.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. f. g. ♂ ♀. Cherra Poonjee. Presented by Colonel Buckley.

678. *NEOCHERA BHAWANA, Moore* (*Pl.* VII*a*, *fig.* 4).

Neochera Bhawana, n. sp.—Male, dark slate-colour, glossed with steel-blue; hind-wings darkest. *Fore-wing* with all the veins white, those terminating on the exterior margin with bifid tips; an orange-yellow spot containing a black dot at the base. *Hind-wing* with an indistinct black discal spot; the lower veins entirely, and tips of all, and ciliæ white. Antennæ brown; palpi and head black, with some white about the base of antennæ and collar; thorax beneath white, spotted with black; thorax above and abdomen above and beneath orange-yellow, palest on the abdomen; thorax above with eight black spots,—four in front, one on each side, and two along the middle; abdomen with a dorsal and two lateral rows of black spots. Legs black with white streaks. Expanse $2\frac{7}{8}$ in.

a. b. ♂. Java. From Dr. Horsfield's Collection.

Genus EUPLOCIA, *Hübner.*

Euplocia, *Hübner, Verz. bek. Schmett. p.* 172 (1816).

Hypsa (Euplocia), *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 447.

679. *EUPLOCIA MEMBLIARIA, Cramer Sp.*

Phalæna-Bombyx Membliaria, *Cramer, Pap. Exot.* III. *p.* 139, *pl.* 269, *f. C. D.* (1782).

Euplocia Membliare, *Hübner, Verz. bek. Schmett. p.* 172.

Hypsa (Euplocia) Membliaria, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 448.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

Genus TIGRIDOPTERA, *Herr. Schäffer.*

TIGRIDOPTERA, *Herr. Schäffer, Lep. Exot. Spec. Nov. ser.* I. *p.* 69 (1856).

680. *TIGRIDOPTERA EXUL, Herr. Schäffer.*

Tigridoptera exul, *Herr. Schäffer, Lep. Exot. Spec. Nov. ser.* I. *p.* 69, *f.* 533 (1856).

Female, pale silvery-grey. *Fore-wing* with two basal and three discal transverse series of black dots, a streak from the base extending along the posterior margin, and a shorter streak in the middle of the disc, orange-yellow; *hind-wing* with three discal series of black dots, extending from the middle of anterior to abdominal margin; two orange-yellow streaks, one parallel with abdominal margin, the other along the disc. Antennæ, front of head, hind part of thorax above, and wholly beneath, and legs pale grey; top of head, front of thorax, and abdomen orange-yellow; thorax with six black dots; wings beneath grey, each with a black discal dot. Expanse $2\frac{3}{8}$ in.

a. ♀. Java. From Dr. Horsfield's Collection.

Genus ANAGNIA, *Walker.*

HYPSA (ANAGNIA), *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 446 (1854).

HYPSA (PERIDROME*), *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 444 (1854).

AGANOPIS, *Herr. Schäffer, Lep. Exot. Spec. Nov. p.* 72, *f.* 501, 502 (1856).

681. *ANAGNIA SUBFASCIA, Walker.*

Hypsa (Anagnia) subfascia, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 446 (1854).

a. ♂. Silhet. Presented by the Trustees of the British Museum.

c. d. ♂ ♀. Cherra Poonjee. Presented by Colonel Buckley.

682. *ANAGNIA ORBICULARIS, Walker* (*Pl.* VII*a*, *fig.* 5, ♀).

♂ ♀ Hypsa (Peridrome) orbicularis, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 445 (1854).

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* Previously used by Hübner in 1816.

♂ Aganopis subquadrata, *Herr. Schäffer, Lep. Exot. Spec. Nov. p.* 72, *f.* 501–2 (1856).

a. b. ♂ ♀. Java. From Dr. Horsfield's Collection.

c. ♂. Cherra Poonjee. Presented by Col. Buckley.

d. e. N. India. From Mr. Argent's Collection.

The larva and pupa of *Anagnia orbicularis* are figured on Plate XIII., figs. 10, 10*a*, from Java. "Found on the southern hills on a species of *Apocinum* (?). January. Scarce."—(Horsfield, MS.)

Cocoon covered with particles of leaves, lichens, &c.

Genus PANGLIMA, *Moore.*

Antennæ simple.

Palpi ascending, much longer than the head; second and third joints of equal length; the third joint linear, compressed and slightly clavate laterally.

Legs broken off.

Fore-wings very long, nearly oval.

Hind-wings somewhat triangular, one-third less in length.

683. *PANGLIMA NARCISSA, Cramer Sp.*

Phalæna-Bombyx Narcissus, *Cramer, Pap. Exot.* I. *p.* 116, *pl.* 73, *f. E. F.* (1779).

Hypsa Narcissus, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 458.

Noctua Narcissus, *Fabricius, Ent. Syst.* II. III. *p.* 20.

a. Chusan. Presented by Dr. Cantor.

Genus DIGAMA, *Moore.*

Antennæ of the male broadly bipectinated; of the female, filiform.

Palpi ascending, longer than the head, covered with minute scales; second joint twice the length of the first; third joint long, slender.

Legs covered with minute scales.

Abdomen slender, extending beyond the hind-wings.

Fore-wings long; anterior margin nearly straight; exterior margin (in the male) oblique, rounding to near base of posterior margin, where there is a short longitudinal raised fold; (in the female) straighter, and the raised fold sometimes obsolete.

Hind-wings somewhat rounded.

684. *DIGAMA HEARSEYANA, Moore* (*Pl.* VII*a*, *fig.* 3 ♂, 3*a* ♀).

Digama Hearseyana, n. sp.—Male, *fore-wing* pale greyish-brown, with darker blotches, and having several black basal dots; *hind-wing* testaceous-yellow, with a small brown mark on middle of exterior margin; antennæ brown; palpi testaceous-yellow, first and second joint with a black spot, third joint tipped with black; head and thorax pale greyish-brown, with some black dots; abdomen testaceous, with a dorsal row of black dots; legs yellowish, with dark bands. Female, *fore-wing* dark greyish-brown, more or less mottled with grey, with black basal dots; *hind-wing* without the brown mark; palpi, head, and thorax dark greyish-brown, the black dots indistinct; fore and mid-legs darker than in the male, and the bands less distinct. UNDER-SIDE of both sexes with a black discal dot. Expanse of male $1\frac{2}{10}$ in., of female $1\frac{3}{12}$ in.

a. b. ♂ ♀. Canara. Presented by S. N. Ward, Esq.
c. ♂. Ceylon. From Jonville's Collection.
d. e. f. g. ♀. N. India. Presented by General Hearsey.
h. ♀. Dukhun. Presented by Col. Sykes.

Genus MACROBROCHIS, *Herr. Schäffer.*

MACROBROCHIS, *Herr. Schäffer, Lep. Exot. Spec. Nov. p.* 72, *f.* 531, (1856).
LITHOSIA, *pt. Walker.*
ISARES, *Boisduval, MS.*

685. *MACROBROCHIS GIGAS, Walker Sp.*

Lithosia gigas, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 494 (1854); *pt.* VII. *p.* 1681.
Macrobrochis interstitialis, *Herr. Schäffer, Lep. Exot. Spec. Nov. f.* 531, *p.* 72 (1856).
Isares huma, *Boisduval, MS.*

a. b. c. ♂ ♀. Cherra Poonjee. Presented by Colonel Buckley.

Genus TRIPURA, *Moore.*

Antennæ filiform, slightly ciliated.
Palpi ascending, covered with minute hairy scales, third joint short, conical.

Proboscis of moderate length.

Legs covered with minute scales.

Abdomen moderately slender, extending beyond the hind-wings.

Fore-wings long; anterior margin slightly convex; exterior margin oblique, rounding to base of posterior margin.

Hind-wings somewhat trigonate, anal angle rather truncated.

686. *TRIPURA PRASENA, Moore* (*Plate* VII*a*, *fig.* 6).

Tripura Prasena, n. sp.—Dull white; *fore-wing*, with the veins, and broadly along the costal and posterior margins, extremity of discoidal cell, and along the apex and ciliæ, dark purple-brown; *hind-wing*, with the apex and the veins from thence and ciliæ, purple-brown; antennæ, legs, tip of palpi above, head, thorax, and extremity of abdomen, metallic blue-green; base of abdomen, purple-brown; prothorax, palpi, and body beneath, yellow. Expanse 2¼ in.

a. b. N. India. Presented by Col. Buckley.

Genus VITESSA, *Moore*.

Antennæ minutely pectinated to two-thirds the length, tip filiform.

Palpi ascending, much longer than the head; first joint short, second and third joints of equal length; second joint thick, third joint linear.

Proboscis moderately long.

Legs covered with minute scales.

Abdomen long, attenuated at the base, with large tufted anal appendage.

Fore-wings long; anterior, exterior, and posterior margins nearly straight; exterior margin slightly oblique.

Hind-wings somewhat trigonate, anterior margin nearly straight, apex and exterior margin rounded.

687. *VITESSA SURADEVA, Moore* (*Plate* VII*a*, *fig.* 7).

Vitessa Suradeva, n. sp.—Male, white; *fore-wing* yellow at the base, with four basal spots disposed in two transverse rows, a patch across the middle of the wing which incloses a white spot, and broadly along the veins to the exterior margin glossy black; *hind-wing*, with anterior margin narrowly and outer margin broadly, black; antennæ, third joint of palpi, and spots on the thorax, black; head, thorax, a large abdominal tuft, first and second joint of palpi, and

femur of anterior leg beneath, yellow; abdomen white, with black bands, that at the extremity being broad; legs black, spotted with white; ciliæ glaucous white. Expanse $1\frac{5}{8}$ in. to $1\frac{7}{8}$ in.

a. b. ♂. N. India. Presented by Col. Buckley.
c. d. ♂. N. India. From Mr. Argent's Collection.

Genus ATTEVA, *Walker*.

ATTEVA, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 526 (1854).

688. *ATTEVA BRUCEA, Moore* (*Plate* VII*a*, *fig.* 8).

Atteva Brucea, n. sp. — Golden-yellow; *fore-wing* above with numerous white spots, which vary much in size and shape; ciliæ white; *hind-wing* wholly golden-yellow; antennæ and head white; thorax with several white spots; legs brown, spotted with white; abdomen beneath spotted with white; UNDER-SIDE of wings wholly golden-yellow. Expanse $1\frac{1}{8}$ in.

a. b. c. d. e. f. ♂ ♀. Java. From Dr. Horsfield's Collection.

The larva and pupa of *Atteva Brucea* are figured on Plate XIII., figs. 11, 11*a*, from Java. "Feeds on the *Trowalot* (*Brucea sumatrana*). December and January. Rather common."—(Horsfield, MS.)

Genus LYCLENE, *Moore*.

CYLLENE,* *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 543 (1854).

689. *LYCLENE ILA, Moore*.

Lyclene Ila, n. sp. — Female, *fore-wing* testaceous, with basal, apical, and broad transverse middle band, dark grey; *hind-wing* pale yellow, with indistinct transversely-curved narrow grey band; antennæ, head, and body testaceous; thorax dotted with black. Expanse $\frac{7}{10}$ in.

a. ♀. Canara. Presented by S. N. Ward, Esq.

690. *LYCLENE LUTARA, Moore*.

Lyclene Lutara, n. sp.—Male, *fore-wing* pale testaceous, with basal dots, a transverse irregular cross-band, followed by a transverse zigzag line, a discal dot, and two submarginal rows of dots, blackish; *hind-*

* Previously used in *Coleoptera* by Mr. Newman.

wing yellowish; antennæ, head, and thorax pale testaceous; thorax with two black dots; abdomen yellowish, with large blackish anal tuft; legs spotted with white. Female without the dark anal tuft. Expanse $\frac{7}{10}$ in. to $\frac{8}{10}$ in.

a. b. c. d. ♂ ♀, and pupa. Java. From Dr. Horsfield's Collection.

The larva and cocoon of *Lyclene Lutara* are figured on Plate XIII., figs. 12, 12*a*, from Java. "Feeds on the *Wijin* (*Solanum indicum*). Common in January."—(Horsfield, MS.)

Genus BARSINE, *Walker*.

BARSINE, *Walker*, *List Lep. Het. Brit. Mus. pt.* II. *p.* 546 (1854).

AMMATHO, *Walker*, id. *pt.* III. *p.* 759 (1855).

HYPOCRITA, *Herr. Schäffer*, *Lep. Exot. Spec. Nov. ser.* I. *f.* 438 (1855).

HYPOPREPIA, *pt. Walker*.

691. *BARSINE DEFECTA, Walker.*

Barsine defecta, *Walker*, *List Lep. Het. Brit. Mus. pt.* II. *p.* 546 (1854).

Ammatho cuneonotatus, *Walker*, *List Lep. Het. Brit. Mus. pt.* III. *p.* 759 (1855).

a. Java. From Dr. Horsfield's Collection.

b. c. d. e. f. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

692. *BARSINE DELINEATA, Walker.*

Hypoprepia delineata, *Walker*, *List Lep. Het. Brit. Mus. pt.* II. *p.* 487 (1854).

Ammatho figuratus, *Walker*, *List Lep. Het. Brit. Mus. pt.* III. *p.* 759 (1855).

Hypocrita rhodina, *Herr. Schäffer*, *Lep. Exot. Spec. Nov. ser.* I. *f.* 438 (1855).

a. Chusan. Presented by Dr. Cantor.

693. *BARSINE LINGA, Moore.*

Barsine Linga, n. sp.—Testaceous-white; *fore-wing*, with the base of costal margin, three spots at the extreme base of the wing, and two

transverse basal rows of longitudinal dots, and along all the veins from the apical third of the wing to the exterior margin, black; body pale testaceous; legs yellowish, with indistinct black spots. Expanse 1½ in.

a. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

694. *BARSINE SENARA, Moore.*

Barsine Senara, n. sp.—Male, pale testaceous; *fore-wing* with indistinct transverse cross-band; near the base, and oblique maculated apical band, grey. Expanse $\frac{19}{20}$ in.

a. ♂. Java. From Dr. Horsfield's Collection.

Genus CYANA, *Walker.*

CYANA, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 528 (1854).

695. *CYANA DETRITA, Walker.*

Cyana detrita, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 529 (1854).

a. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

Genus NEPITA, *Moore.*

PITANE,* *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 531 (1854).

696. *NEPITA ANILA, Moore.*

Pitane Lydia, *apud Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 532 (1854).

? Lithosia Lydia, *Donovan, Epit. Ins. New Holl. pl. Boisduval, Voy. de l'Astrolabe, Lép. pt.* I. *p.* 211.

a. b. Dukhun. Presented by Col. Sykes.

c. Canara. Presented by S. N. Ward, Esq.

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* This name was previously used by Mr. Walker. (*See* List Lep. Het. B. M. pt. II. p. 462.)

Genus SETINA, *Schrank.*

SETINA, *Schrank, Faun. Boica,* II. *pt.* II. *p.* 165 (1802). *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 514.

CYBOSIA *et* ENDROSA, *Hübner, Verz. bek. Schmett. p.* 167 (1816).

PHILEA, *Dalman, Zett. Ins. Lapp. p.* 931 (1823).

TINEA, *pt. Linnæus.*

CALLIMORPHA, *pt. Latreille.*

LITHOSIA, *pt. Fabricius.*

697. *SETINA SINENSIS, Walker.*

Setina sinensis, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 520 (1854).

a ♀. Chusan. Presented by Dr. Cantor.

698. *SETINA DASARA, Moore.*

Setina Dasara, n. sp.—Male, pale testaceous; *fore-wing* with a black dot at the base, an indistinct pale grey irregular patch from near the base to near the apex, with a darker narrow longitudinal discal dot; *hind-wing* pale yellow, semihyaline; antennæ, head, and thorax pale testaceous; thorax with black dots; abdomen pale grey; thorax beneath and legs pale yellow; tarsi with brown tips. Female paler, and without the grey patch, but with a black discal dot.

a. b. ♂ ♀. Java. From Dr. Horsfield's Collection.

Genus LITHOSIA, *Fabricius.*

LITHOSIA, *Fabricius, Ent. Syst. Suppl. p.* 459 (1798). *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 493.

PHALÆNA, *sect.* NOCTUA, *pt. Linnæus.*

SETINA, *pt. Schrank.*

CALLIMORPHA, *pt. Latreille.*

ŒONISTIS, PELOSIA, EILEMA, *Hübner, Verz. bek. Schmett. p.* 165 (1816).

699. *LITHOSIA ENTELLA, Cramer Sp.*

Phalæna-Tinea Entella, *Cramer, Pap. Exot.* III. *p.* 27, *pl.* 208, *f. D.* (1782).

Lithosia Entella, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 495.

Œonistis Entelliola, *Hübner, Verz. bek. Schmett. p.* 165.

Noctua Delia, *Fabricius, Ent. Syst.* III. 2, 25 (1793). *Donovan, Epit. Ins. New Holl. pl.*

Lithosia Delia, *Boisduval, Voy. de l'Astrolabe, pt.* I. *Lép. p.* 209.

a. N. India. Donor unknown.

700. *LITHOSIA SAMBARA, Moore.*

Lithosia Sambara, n. sp.—Fore-wing pale testaceous; *hind-wing* paler; antennæ and legs yellow; palpi tipped with black above. Expanse 1½ in.

a. ♀. Java. From Dr. Horsfield's Collection.

701. *LITHOSIA VAGESA, Moore.*

Lithosia Vagesa, n. sp.—Pale testaceous; antennæ, tip of palpi, and legs black. Expanse 1⅝ in.

a. ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

702. *LITHOSIA NATARA, Moore.*

Lithosia Natara, n. sp.—Fore-wing pale testaceous-grey, with pale testaceous costal band; *hind-wing* pale yellow; antennæ brown; head, prothorax, abdomen, body beneath, and legs pale testaceous; thorax testaceous-grey. Expanse 1 in. to 1⅛ in.

a. b. c. d. Java. From Dr. Horsfield's Collection.

Allied to *Lithosia serva* (Walker, List Lep. Het. B. M. pt. II. p. 506), from Nepal.

703. *LITHOSIA PRABANA, Moore.*

Lithosia Prabana, n. sp.—Fore-wing grey, costal band and ciliæ pale testaceous; *hind-wing* wholly grey; body above grey; head, body beneath, and legs testaceous. Expanse ⅝ in. to ¹¹/₁₂ in.

a. b. Java. From Dr. Horsfield's Collection.

704. *LITHOSIA BADRANA, Moore* (*Plate* VII*a*, *fig.* 9).

Lithosia Badrana, n. sp. — *Fore-wing* testaceous-yellow, with a broad grey discal patch containing a testaceous spot anteriorly; *hind-wing* pale yellow; antennæ, body, and legs testaceous-yellow; thorax with three grey dots. Expanse 1 in.

a. ♀. Java. From Dr. Horsfield's Collection.

Genus BIZONE, *Walker*.

BIZONE, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 548 (1854).
DEIOPEIA, *pt. Westwood.*

705. *BIZONE PUELLA, Drury Sp.*

Phalæna puella, *Drury, Exot. Ins.* II. *p.* 3, *pl.* 2, *f.* 2, *App. p.* ii. (1773).

Bizone puella, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 549.

Deiopeia puella, *Westwood, ed. Drury, Ins.* II. *p.* 3, *pl.* 2, *f.* 2.

a. b. c. d. e. f. ♂ ♀, and pupa. Java. From Dr. Horsfield's Collection.

The larva, pupa, and cocoon of *Bizone puella* are figured on Plate XIII., figs. 13, 13*a*, from Java. "Feeds on a species of *Muscus*, bearing the native name of *Lumut*. Common in January and February; scarce in March and April."—(Horsfield, MS.)

The cocoon is a beautiful net-like structure, and is formed solely of the hairs of the larva.

706. *BIZONE PITANA, Moore.*

Bizone Pitana, n. sp.—Female, pure white; *fore-wings* with three narrow pale red bands,—the first basal, the second zigzag, indented towards the base in its middle; the third waved, curved outwards; three black dots between the second and third bands. Expanse $1\frac{3}{8}$ in.

a. Java. From Dr. Horsfield's Collection.

707. *BIZONE BIANCA, Walker.*

Bizone Bianca, *Walker, List Lep. Het. Brit. Mus. pt.* VII. *p.* 1684 (1856).

a. N. India. Presented by Col. Buckley.

Remark.—The cocoon of *Bizone Bianca* is constructed exactly like that of *B. puella*, and is figured among the drawings in the collection of A. Grote, Esq.

708. *BIZONE PEREGRINA, Walker.*

Bizone peregrina, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 551 (1854).

a. Bombay. Presented by Ezra T. Downes, Esq.

709. *BIZONE ADITA, Moore* (*Plate* VIIa, *fig.* 11).

Bizone Adita, n. sp.—Female, pure white; *fore-wings* with three narrow transverse pale red bands, the first basal, the second curved outwards, the third zigzag; two black dots between the second and third bands. Expanse 1½ in.

a. N. India. Presented by Col. Buckley.

710. *BIZONE ARAMA, Moore* (*Plate* VIIa, *fig.* 10).

Bizone Arama, n. sp.—Female, pure white; *fore-wing* with four yellow bands, the first basal, the fourth subapical; three rather large black spots between the second and third bands; thorax banded with yellow; abdomen pinkish. Expanse 2 in.

a. b. c. d. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

Genus UTETHESIA, *Hübner.*

UTETHESIA, *Hübner, Verz. bek. Schmett. p.* 168 (1816).

DEIOPEIA, *Stephens, Ill. Brit. Ent. Haust.* II. *p.* 92 (1829). *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 565.

TINEA, *pt. Linnæus.*

BOMBYX, *pt. Fabricius.*

LITHOSIA, *pt. Haworth, Duponchel, Guérin.*

EYPREPIA, *pt. Ochsenheimer.*

EULEPIA, *pt. Curtis.*

EUCHELIA, *pt. Boisduval.*

EUPREPIA, *pt. Zeller.*

711. *UTETHESIA PULCHELLA, Linn. Sp.*

Tinea pulchella, *Linnæus, Syst. Nat.* I. *pt.* II. *p.* 884 (1767). *Scopoli, Ent. Carn. p.* 208. *Sulzer, Ins.* II. *p.* 162, *pl.* 23, *f.* 11.

Deiopeia pulchella, *Stephens, Ill. Brit. Ent. Haust.* II. *p.* 93. *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 566.

Bombyx pulchella, *Fabricius, Spec. Ins.* II. *p.* 203; *Mant. Ins.* II. *p.* 131; *Ent. Syst.* III. I. *p.* 179.

Lithosia pulchella, *Haworth, Lep. Brit. p.* 150.

Noctua pulchra, *Denis et Schieff. Wien. Verz. p.* 68. *Esper, Ausl. Schmett.* IV. *p.* 570, *pl.* 164, *f.* 3–5.

Bombyx pulchra, *Borkhausen, Eur. Schmett.* III. *p.* 259. *Hübner, Bombyces, p.* 128, *pl.* 26.

Lithosia pulchra, *Ochsenheimer, Schmett. von Eur.* III. *p.* 304. *Guérin-Méneville, Icon. Règ. An. pl.* 88, *f.* 8.

Utethesia pulchra, *Hübner, Verz. bek. Schmett. p.* 168.

Eulepia pulchra, *Curtis, Brit. Ent.* IV. *pl.* 169.

Euchelia pulchra, *Boisduval, Faun. Ent. Madag., etc., p.* 85.

Euprepia pulchra, *Zeller, Isis* (1847), *p.* 432.

Callimorpha pulchra, *Herr. Schäffer, Samml. Exot. Schmett.* II. *p.* 151.

Phalæna-Geometra Lotris, *Cramer, Pap. Exot.* II. *p.* 20, *pl.* 109, *f. E.* (1779).

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. Penang. Presented by Dr. Cantor.

f, g. ♂ ♀. N. India. Presented by Gen. Hearsey.

h. Darjeeling. From Messrs. Schlagintweit's Collection.

i. Canara. Presented by S. N. Ward, Esq.

The larva and pupa of *Utethesia pulchella* are figured on Plate IV., figs. 1, 1*a*, from Java. "Feeds on a species of *Crotalaria*. nuary and February."—(Horsfield, MS.)

. *UTETHESIA SEMARA, Moore* (*Plate* VII*a*, *fig.* 12).

tethesia Semara, n. sp. — *Fore-wing* pale greyish-brown, with a w central cream-coloured streak from the base; a longitudinal of narrow crimson spots along the costa and between the intersected by black dots; exterior margin with a series of ots: *hind-wing* white, with a broad pale brown border; an- olack; thorax cream-colour, with black dots; abdomen white. e of wings $1\frac{5}{8}$ in.

a. b. c. Java. From Dr. Horsfield's Collection.

713. *UTETHESIA VENUSTA, Hübner.*

Utethesia venusta, *Hübner, Zuträge, pt.* III. *p.* 29, *f.* 521 (1825).

Deiopeia venusta, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 568.

Euchelia formosa, *Boisduval, Faun. Ent. Madag., etc., p.* 85.

a. b. c. d. ♂ ♀. N. India. Presented by Colonel Buckley.

Genus ARGINA, *Hübner.*

ARGINA, *Hübner, Verz. bek. Schmett. p.* 167 (1816).
DEIOPEIA, *pt. Walker.*

714. *ARGINA ASTREA, Drury Sp.*

Phalæna-Noctua Astrea, *Drury, Exot. Ins.* II. *p.* 11. *pl.* 6, *f.* 3; *App. p.* ii. (1773). *Olivier, Enc. Méth.* VIII. *p.* 261.

Deiopeia Astrea, *Westwood, ed. Drury's Exot. Ins.* II. *p.* 13, *pl.* 6, *f.* 3. *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 570.

Phalæna-Geometra cribraria, *Cramer, Pap. Exot.* III. *p.* 27, *pl.* 208, *f. C. G.* (1782).

Phalæna-Geometra cribrata, *Gmélin, Syst. Nat.* I. 5, *p.* 2482.

Phalæna-Bombyx Pylotis, *Fabricius, Ent. Syst.* III. I. *p.* 479 (1797). *Gmélin, Syst. Nat.* I. V. *p.* 244[illegible] *Clerck, Icones, pl.* 54, *f.* 4.

Argina Pylotis, *Hübner, Verz. bek. Schmett. p.* 167.

Euchelia Pylotis, *Boisduval, Faun. Ent. Madag., p.* 85.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's [illegible] lection.

e. ♂. Bootan. From Pemberton's Collection.

f. g. ♂ ♀. N. India. Presented by Gen. Hear[illegible]

The larva and pupa of *Argina Astrea* are figured on Plate [illegible] figs. 2, 2*a*, copied from an original drawing in the posses[illegible] J. O. Westwood, Esq.

715. *ARGINA DULCIS, Walker Sp.*

Deiopeia dulcis, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 569 (1854).

Phalæna-Geometra cribraria, var., *Cramer, Pap. Exot.* III. *p.* 172, *pl.* 288, *f. D.*

a. b. c. ♂ ♀. Canara. Presented by S. N. Ward, Esq.

716. *ARGINA ARGUS, Kollar Sp.*

Euprepia Argus, *Kollar, in Hügel's Kaschmir*, IV. *pt.* II. *p.* 467, *pl.* 21, *f.* 3 (1844).

Deiopeia Argus, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 572.

a. Java. From Dr. Horsfield's Collection.

b. c. d. e. ♂ ♀. N. India. Presented by Colonel Buckley.

f. g. h. i. ♂ ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

The larva and pupa of *Argina Argus* are figured on Plate XIV., figs. 3, 3*a*, from Java. "Feeds on the *Orrok-orrok* (*Crotalaria obtusifolia*). Abundant in January, February, and March." — (Horsfield, MS.)

717. *ARGINA SYRINGA, Cramer Sp.*

Phalæna-Geometra Syringa, *Cramer, Pap. Exot.* I. *p.* 8, *pl.* 5, *f. C. D.* (1779).

Deiopeia Syringa, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 572.

Bombyx Crotalariæ, *Fabricius, Ent. Syst.* II. *p.* 473. *Olivier, Enc. Méth.* V. *p.* 94.

Argina Crotalaria, *Hübner, Verz. bek. Schmett. p.* 167.

a. b. c. ♂ ♀. N. India. Presented by Col. Buckley.

Remark.—Some of the genera of this section (as *Eulepia grammica, Bizone, Utethesia,* and *Argina*) should, perhaps more properly, be arranged in the stirps having ursine larvæ.—F. M.

Section III.

Larva of moderate length, either distinctly tuberculate and nearly naked, or subpilose, and having long filiform appendages on the anterior, or on *both* the anterior and posterior segments, together with dense dorsal tufts of short hairs on the middle segments. Metamorphosis:—Cocoon large, oval, with a dense outer covering, the interior consisting of a silken fabric. The perfect insect has the wings either long and trigonate, oval, or broad; the hind-wings in some are also long, being produced to a point at the apex: flies by day; antennæ broadly bipectinated in the male, more narrowly so in the female, and in some genera the females have the apex clavate; proboscis short; abdomen slender, in some females the ovipositor being exserted.

Sphinx (*sect. 4, pt.*), *Linnæus, S. N.* I. II. (1767).

Phalæna, *sect.* Attaci, *pt. Linnæus.*

Sphinges (*Larva G. pt.*), *Denis et Schiffermüller, Wien. Verz. p.* 43, (1776).

Sphinges, *pt. Hübner, Zuträge, p.* 4 (1818). *H. Doubleday, List Brit. Lep. p.* 3 (1850).

Zygænides, *pt. Latreille, Gén. Crust. et Ins.* IV. *pp.* 189, 211 (1809). *Boisduval, Ind. Méth. p.* 50 (1840). *Walker, List Lep. Het. Brit. Mus. pt.* I. *p.* 62 (1854).

Zygænidæ, *pt. Leach, Edinb. Encycl. p.* (1815). *Stephens, Ill. Brit. Ins. Haust.* I. *p.* 105 (1828); id. *Catal. Brit. Lep. Brit. Mus. p.* 24 (1850). *Stainton, Manual Brit. Lep. pp.* 75, 76 (1856).

Glaucopites, *pt. Newman, Entom. Mag.* II. *p.* 384 (1834); id. *Hist. of Ins. 2nd edit. p.* 213 (1841).

Anthroceridæ, *pt. Westwood, Introd.* II. *p.* 371 (1840).

Zygænites, *pt.* Procrites, Arctiites *et* Lithosiites, *pt. Blanchard, Hist. Nat. des Ins.* II. *pp.* 354, 362–3 (1845).

Lithosiidæ, *pt.* Ctenuchidæ, Melameridæ, Pericopidæ, Nyctemeridæ, Euschemidæ *et* Chalcosiidæ, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 279 (1854); id. *pt.* VII. *pp.* 1645–1668 (1856).

Hazidæ, *Guénee, Hist. Nat. des Lép.* X. (*Geometrites*), *p.* 188 (1857).

Zygænoidea, *pt. et* Syntomoidea, *Herr. Schäffer, Lep. Exot. Spec. Nov. pp.* 57, 72 (1858).

Pyrales, *pt. Newman, Sph. Vesp. pp.* 35, 36 (1832).

Genus PROCRIS, *Fabricius.*

PROCRIS, *Fabricius, Syst. Gloss.* (*Illiger's Mag.* IV. *p.* 289, 1807). *Walker, List Lep. Het. Brit. Mus. pt.* I. *p.* 105.
ATYCHIA, *Ochsenheimer, Schmett. von Eur.* II. *p.* 10 (1808).
INO, *Leach, Edinb. Encycl.* IX. *p.* 131 (1815).
AGLAOPE, *Dalman, Sp. S. p.* 224 (1816).

18. *PROCRIS CHALA, Moore.*

Procris Chala, n. sp.—Smoky black; *fore-wings* with longitudinal and transverse narrow lines of pale metallic blue; *body* partially covered with pale metallic blue; *antennæ* and legs metallic purple. Expanse of wings $\frac{8}{12}$ in.

a. b. Java. From Dr. Horsfield's Collection.

Genus HISTIA, *Hübner.*

HISTIA, *Hübner, Verz. bek. Schmett. p.* 198 (1816). *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 411.
GYNAUTOCERA, *Guérin-Méneville, Mag. Zool. p.* 12 (1831). *Walker.*
ZYGÆNA, *pt. Fabricius.*

719. *HISTIA FLABELLICORNIS, Fabricius Sp.*

Zygæna flabellicornis, *Fabricius, Spec. Ins.* II. *p.* 163 (1781); *Mant. Ins.* II. *p.* 105; *Ent. Syst.* III. I. *p.* 398.
Histia flabellicornis, *Hübner, Verz. bek. Schmett. p.* 198. *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 412.
Sphinx-Zygæna flabellicornis, *Gmélin, Syst. Nat.* I. V. 2396.
Papilio Rhodope, *Cramer, Pap. Exot.* I. *p.* 49, *pl.* 30, *f. E.* (1796).

a. b. c. d. Darjeeling. From Pearson's Collection.

720. *HISTIA PAPILIONARIA, Guérin Sp.*

Gynautocera Papilionaria, *Guérin-Méneville, Mag. Zool. p.* 12 (1831). *Westwood, Arcana Ent. p.* 20. *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 411.

a. b. c. ♂ ♀. N. India. Presented by Col. Buckley.
d. e. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

721. *HISTIA SELENE, Kollar Sp.*

Chalcosia Selene, *Kollar, in Hügel's Kaschmir*, IV. *pt.* II. *p.* 463 (1844).

Histia Selene, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 413; id. *pt.* VII. *p.* 1668.

Gynautocera libelluloides, *Boisduval, in Herr. Schäffer's. Lep. Exot. Spec. Nov. ser.* I. *pl.* 3, *f.* 11, 12 ♂, *f.* 13 ♀ (1853).

Histia vacillans, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 413 (1854); id. *pt.* VII. *p.* 1668.

a. b. ♀. Java. From Dr. Horsfield's Collection.

Genus POMPELON, *Walker.*

POMPELON, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 413 (1854).
GYNAUTOCERA, *pt. Guérin-Méneville.*

722. *POMPELON MARGINATA, Guérin Sp.*

Gynautocera marginata, *Guérin-Méneville, in Delessert's Voy. dans l'Inde, pt.* II. *p.* 83, *pl.* 25, *f.* 1 (1843).

Pompelon marginata, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 414; id. *pt.* VII. *p.* 1669.

Heterusia acrocyanea, *De Haan, in Herr. Schäffer's Lep. Exot. Spec. Nov. ser.* I. *figs.* 157, 158, *p.* 79 (1854).

a. b. Java. From Dr. Horsfield's Collection.

c. Penang. Presented by Dr. Cantor.

Genus CYCLOSIA, *Hübner.*

CYCLOSIA, *Hübner, Verz. bek. Schmett. p.* 177 (1816).
HELEONA, *Westwood, ed. Drury's Exot. Ins.*
AMESIA, *Westwood, Arcana Ent. p.* 19 (1841).
EPYRGIS, *Boisduval, in Herr. Schäffer's Lep. Exot. ser.* I. (1853).
ESTHEMA, *pt. Hübner.*

723. *CYCLOSIA SANGUIFLUA, Drury Sp.*

Phalæna sanguiflua, *Drury, Exot. Ins.* II. *p.* 35, *pl.* 20, *f.* 1, 2; id. *App. p.* 2 (1773).

Cyclosia sanguiflua, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 415.

Callimorpha (Heleona) sanguiflua, *Westwood, ed. Drury's*

Ins. II. *p.* 37, *pl.* 20, *f.* 1, 2. *Royle's Himalaya, p.* 53.

Amesia sanguiflua, *Westwood, Arcana Ent. p.* 20.

Cyclosia Aliris, *E. Doubleday. Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 415 (1854).

a. b. Bootan. From Pemberton's Collection.

c. Cherra Poonjee. Presented by Col. Buckley.

724. *CYCLOSIA MIDAMA, Boisduval Sp.*

♂ Epyrgis Midama, *Boisduval, in Herr. Schäffer's Lep. Exot. Spec. Nov. ser.* I. *pl.* 2, *f.* 7 (1853).

Chalcosia Midama, *Walker, List Lep. Het. Brit. Mus. pt.* VII. *p.* 1670.

♀ Epyrgis Hormenia, *Boisduval, in Herr. Schäffer's Lep. Exot. Spec. Nov. ser.* I. *pl.* 2, *f.* 8.

Cyclosia venusta, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 416 (1854).

a. b. ♂. Cherra Poonjee. Presented by Colonel Buckley.

c. d. e. ♂ ♀. N. India. From Mr. Argent's Collection.

725. *CYCLOSIA PAPILIONARIS, Drury Sp.*

Phalæna-Noctua Papilionaris, *Drury, Exot. Ins.* II. *p.* 4, *pl.* 11, *f.* 4; id. *App. p.* 2 (1773).

Cyclosia Papilionaris, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 416.

Phalæna-Attacus Papilionaris, *Cramer, Pap. Exot.* I. *p.* 45, *pl.* 29, *f. A.*

Esthema Papilionaris, *Hübner, Verz. bek. Schmett. p.* 178.

Heleona Papilionaris, *Westwood, ed. Drury's Ins.* II. *p.* 4, *pl.* 11, *f.* 4.

Phalæna venaria, *Fabricius, Ent. Syst.* III. *pt.* II. *p.* 156.

a. b. ♂ ♀. Java. From Dr. Horsfield's Collection.

c. ♀. Darjeeling. From Pearson's Collection.

d. e. f. g. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

726. *CYCLOSIA PANTHONA, Cramer Sp.*

Phalæna-Geometra Panthona, *Cramer, Pap. Exot.* IV. *p.* 68, *pl.* 322, *f. C.* (1782).

Cyclosia Panthona, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 417.

a. b. Bootan. From Pemberton's Collection.

Genus MILIONIA, *Walker.*

Milionia, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 364 (1854). Epidesma, *pt. Hübner.*

727. *MILIONIA GLAUCA, Cramer Sp.*

Phalæna-Noctua glauca, *Cramer, Pap. Exot.* IV. *p.* 152, *pl.* 368, *f. D.* (1782).

Milionia glauca, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 365.

Epidesma Pyrrho, *Hübner, Verz. bek. Schmett. p.* 176 (1816).

a. b. c. d. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

e. Silhet. From Mr. Argent's Collection.

728. *MILIONIA BASALIS, Walker.*

Milionia basalis, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 365 (1854).

a. Java. From Dr. Horsfield's Collection.

729. *MILIONIA INTERCISA, Walker* (*Plate* VIII*a, fig.* 1).

Milionia intercisa, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 366 (1854).

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

Genus ERASMIA, *Hope.*

Erasmia, *Hope, Trans. Linn. Soc.* XVIII. *p.* 446 (1840). *Westwood, Arc. Ent. p.* 19. *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 418.

730. *ERASMIA PULCHELLA, Hope.*

Erasmia pulchella, *Hope, Trans. Linn. Soc.* XVIII. *p.* 446, *pl.* 31, *f.* 5. *Westwood, Arcana Ent. p.* 19. *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 419.

a. b. c. Cherra Poonjee. Presented by Col. Buckley.

d. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

Genus CAMPYLOTES, *Westwood.*

Campylotes, *Westwood, in Royle's Ill. Nat. Hist. Himalaya, p.* 53 (1840); *Arcana Ent. p.* 20. *Walker.*

731. *CAMPYLOTES HISTRIONICUS, Westwood.*

Campylotes histrionicus, *Westwood, in Royle's Ill. Nat. Hist. Himal. p.* 53, *pl.* 10, *f.* 1 (1840); *Arcana Ent. p.* 20. *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 420.

Chalcosia histrionica, *Kollar, in Hügel's Kaschmir,* IV. *pt.* II. *p.* 463.

a. b. c. d. N. India. Presented by Col. Buckley.

e. Darjeeling. From Messrs. Schlagintweit's Collection.

Genus CHALCOSIA, *Hübner.*

Chalcosia, *Hübner, Verz. bek. Schmett. p.* 173 (1816). *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 420.

Milleria, *Boisduval, in Herr. Schäffer's Lep. Exot. Spec. Nov. ser.* I. (1853).

Gynautocera, *pt. Guérin-Méneville.*

Epyrgis, *pt. Boisduval, Herr. Schäffer.*

732. *CHALCOSIA PECTINICORNIS, Linn. Sp.*

Sphinx pectinicornis, *Linnæus, Syst. Nat.* I. II. *p.* 807 (1767).

Chalcosia-Tiberina pectinicornis, *Hübner, Verz. bek. Schmett. p.* 173.

Chalcosia pectinicornis, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 420; *pt.* VII. *p.* 1669.

Zygæna pectinicornis, *Fabricius, Syst. Ent. p.* 554; *Spec. Ins.* II. *p.* 164; *Mant. Ins.* II. *p.* 105; *Ent. Syst.* III. I. *p.* 399.

Gynautocera pectinicornis, *Guérin-Méneville, in Delessert's Voy. dans l'Inde, pt.* II. *p.* 80, *pl.* 24, *f.* 4.

Epyrgis idæoides, *Boisduval, in Herr. Schäffer's Lep. Exot. Spec. Nov. ser.* I. *pl.* 1, *f.* 6, *p.* 78 (1853).

a. b. Bootan. From Pemberton's Collection.

c. N. India. Presented by Col. Buckley.

d. e. f. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

The larva and cocoon of *Chalcosia pectinicornis* are figured on Plate XIV., figs. 4, 4*a*, copied from the original drawing made by Lady Isabella Rose Gilbert. "Larvæ found July 24th, changed to pupa on the 26th and 27th, the perfect moths emerging on the 7th and 8th August."—(Lady Gilbert's MS. Notes.)

733. *CHALCOSIA TIBERINA, Cramer Sp.*

Phalæna-Bombyx Tiberina, *Cramer, Pap. Exot.* I. *p.* 52, *pl.* 32, *f. D.* (1779). *Edwards's Nat. Hist. of Birds, pl.* 226.

Chalcosia Tiberina, *Hübner, Samml. Exot. Schmett.* I. *f.* 1–4. *Kollar, in Hügel's Kaschmir,* IV. *pt.* II. *p.* 461. *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 422.

a. N. India. Presented by the Trustees of the British Museum.

734. *CHALCOSIA ADALIFA, Doubleday.*

Chalcosia Adalifa, *E. Doubleday, MS. Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 421 (1854).

a. b. N. India. Presented by the Trustees of the British Museum.

735. *CHALCOSIA VENOSA, Walker.*

Chalcosia venosa, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 422 (1854).

a. Ceylon. From M. E. Jonville's Collection.

736. *CHALCOSIA CORRUSCA, Boisduval Sp.*

Milleria corrusca, *Boisduval, in Herr. Schäffer's Lep. Exot. Spec. Nov. ser.* I. *pl.* 1, *f.* 1 (1853).

Chalcosia corrusca, *Walker, List Lep. Het. Brit. Mus. pt.* VII. *p.* 1670.

Chalcosia Zuleika, *E. Doubleday, MS. Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 423 (1854).

a. Silhet. Presented by the Trustees of the British Museum.

737. *CHALCOSIA PHALÆNARIA, Guérin Sp.*

Gynautocera Phalænaria, *Guérin-Méneville, in Delessert's Voy. dans l'Inde, pt.* II. *p.* 84, *pl.* 24, *f.* 1 (1843).

Chalcosia Phalænaria, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 421; *pt.* VII. *p.* 1670.

Chalcosia pulchella, *Kollar, in Hügel's Kaschmir*, IV. *pt.* II. *p.* 461 (1844).

Heterusia pulchella, *Herr. Schäffer, Lep. Exot. Spec. Nov. ser.* I. *f.* 160, 161.

a. b. c. d. e. Java. From Dr. Horsfield's Collection.

Genus PIDORUS, *Walker.*

Pidorus, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 424 (1854).
Zygæna, *pt. Fabricius.*

738. *PIDORUS GLAUCOPIS, Drury Sp.*

Phalæna-Bombyx Glaucopis, *Drury, Exot. Ins.* II. *p.* 11, *pl.* 6, *f.* 4; *App. p.* 11 (1773). *Cramer, Pap. Exot.* IV. *p.* 68, *pl.* 322, *f. D.*

Pidorus Glaucopis, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 424.

Zygæna Glaucopis, *Fabricius, Spec. Ins.* II. *p.* 164; *Mant. Ins.* II. *p.* 105; *Ent. Syst.* III. I. *p.* 400.

Callimorpha Glaucopis, *Westwood, ed. Drury's Exot. Ins.* II. *p.* 14, *pl.* 6, *f.* 4.

a. b. c. ♂ ♀. Darjeeling. From Messrs. Schlagintweit's Collection.

739. *PIDORUS ZELICA, Doubleday Sp.*

Chalcosia Zelica, *E. Doubleday, MS.*

Pidorus Zelica, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 425 (1854).

a. N. India. Presented by the Trustees of the British Museum.

Genus LAURION, *Walker.*

LAURION, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 426 (1854).
EPIDESMA, *pt. Hübner.*
MILLERIA, *pt. Boisduval, Herr. Schäffer.*

740. *LAURION CIRCE, Boisduval Sp.*

Milleria Circe, *Boisduval, in Herr. Schäffer's Lep. Exot. Spec. Nov. ser.* I. *pl.* 1, *f.* 2 (1853).

Laurion Circe, *Walker, List Lep. Het. Brit. Mus. pt.* VII. *p.* 1671.

Laurion metallica, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 426 (1854).

a. b. c. Cherra Poonjee. Presented by Col. Buckley.

741. *LAURION GEMINA, Walker.*

Laurion gemina, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 427 (1854).

a. b. c. Java. From Dr. Horsfield's Collection.

d. N. India. Presented by the Trustees of the British Museum.

Genus CHELURA, *Hope.*

CHELURA, *Hope, Trans. Linn. Soc.* XVIII. *p.* 444 (1840). *Westwood, Arc. Ent. p.* 20. *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 436.

742. *CHELURA BIFASCIATA, Hope.*

Chelura bifasciata, *Hope, Trans. Linn. Soc.* XVIII. *p.* 444 (1840). *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 437.

a. Nepal. Presented by the Trustees of the British Museum.

Genus ETERUSIA, *Hope*.

ETERUSIA, *Hope, Trans. Linn. Soc.* XVIII. *p.* 445 (1840). *Westwood, Arcana Ent. p.* 19. *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 427.

HETERUSIA, *Boisduval, E. Doubleday.*

743. *ETERUSIA TRICOLOR, Hope.*

Eterusia tricolor, *Hope, Trans. Linn. Soc.* XVIII. *p.* 445, *pl.* 31, *f.* 4 (1840). *Westwood, Arcana Ent. p.* 19. *E. Doubleday, Zoologist,* II. *p.* 470. *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 428.

a. ♂. Penang. Presented by Dr. Cantor.

b. ♀. Cherra Poonjee. Presented by Col. Buckley.

744. *ETERUSIA SCINTILLANS, Boisduval.*

Heterusia scintillans, *Boisduval, in Herr. Schäffer's Lep. Exot. Spec. Nov. ser.* I. *f.* 154–155 (1854).

Eterusia scintillans, *Walker, List Lep. Het. Brit. Mus. pt.* VII. *p.* 1671.

Eterusia sublutea, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 430 (1854).

a. ♂. Silhet. Presented by the Trustees of the British Museum.

745. *ETERUSIA EDOCLA, Doubleday.*

Heterusia Edocla, *E. Doubleday, Zoologist,* II. *p.* 469.

Eterusia Edocla, *Walker, List Lip. Het. Brit. Mus. pt.* II. *p.* 428.

a. N. India. From Capt. Harrington's Collection.

b. Silhet. Presented by the Trustees of the British Museum.

746. *ETERUSIA ÆDEA, Linnæus Sp.*

Papilio Ædea, *Linnæus, Syst. Nat.* II. *p.* 757 (1767); *Amœn. Acad.* VII. *p.* 403. *Clerck, Icones, pl.* 4, *f.* 2. *Fabricius, Spec. Ins.* II. *p.* 32; *Mant. Ins.* II. *p.* 16; *Ent. Syst.* III. *p.* 173.

Eterusia Ædea, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 428.

Acræa Ædea, *Godart, Enc. Méth.* IX. *p.* 236.

Heterusia Ædea, *E. Doubleday, Zoologist,* II. *p.* 469, *fig.*

a. ♂. Ceylon. From M. Jonville's Collection.

b. Silhet. Presented by the Trustees of the British Museum.

747. *ETERUSIA RAJA, Moore* (*Plate* VIII*a, fig.* 2).

Eterusia Raja, n. sp.—Female, *fore-wing* green, tinged with golden-yellow, a nearly transverse oblique black-bordered yellow band from the middle of the costa; *hind-wing* golden-yellow, with the veins, a narrow exterior margin, and a curved submarginal band, black; abdominal margin broadly greenish-blue; antennæ blue, slightly bipectinated, and clavate at the tip; head and thorax above green, with a narrow crimson collar; abdomen blue; face, body, and legs beneath pale yellow.

a. ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

748. *ETERUSIA RISA; Doubleday.*

Heterusia Risa, *E. Doubleday, Zoologist,* II. *p.* 468.

Eterusia Risa, *Walker, List Lep. Het. Brit. Mus. p.* II. *p.* 429.

a. Penang. Presented by Dr. Cantor.

749. *ETERUSIA DISTINCTA, Guérin Sp.*

Gynautocera distincta, *Guérin-Méneville, in Delessert's Voy. dans l'Inde, pt.* II. *p.* 85, *pl.* 24, *f.* 3 (1843).

Chalcosia distincta, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 423.

a. b. c. Java. From Dr. Horsfield's Collection.

750. *ETERUSIA PULCHELLA, Walker.*

Eterusia pulchella, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 431 (1854).

a. b. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

751. *ETERUSIA SEXPUNCTATA, Doubleday.*

Heterusia sexpunctata, *E. Doubleday, MS.*

Eterusia sexpunctata, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 432 (1854).

a. N. India. From Capt. Harrington's Collection.

752. *ETERUSIA FERREA, Walker.*

Eterusia ferrea, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 431 (1854).

a. Java. From Dr. Horsfield's Collection.

753. *ETERUSIA DRATARAJA, Moore* (*Plate* VIII*a, fig.* 3).

Eterusia Drataraja, n. sp.—Male, black; *fore-wing* with two transverse curved narrow bands, and along all the veins and veinlets dull ferruginous; *hind-wing* with three lengthened streaks from the base, and three angular submarginal spots ferruginous; antennæ black, bipectinated; body black; collar, spot on each shoulder, and two narrow lines down the thorax, and narrow abdominal bands ferruginous; legs and body beneath pale yellow. Expanse of wings 1½ in.

a. Java. From Dr. Horsfield's Collection.

Genus PINTIA, *Walker.*

PINTIA, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 280 (1854).

754. *PINTIA METACHLOROS, Walker* (*Pl.* VIII*a, fig.* 4 ♂, 4*a* ♀).

♂ Pintia metachloros, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 281 (1854).

a. b. c. d. e. f. g. ♂ ♀. Java. From Dr. Horsfield's Collection.

Pintia metachloros. — Female, bluish-green; *fore-wing* with a slightly oblique broad white band, and a row of minute subapical white dots; *hind-wing* white, with broad purple-brown exterior border; body and antennæ as in male. Expanse of male 1¾ in., of female 2⅛ in.

The larva and cocoon of *Pintia metachloros* are figured on Plate XIV., figs. 5, 5*a*, from Java. "Feeds on the *Jirek*. April." —(Horsfield, MS.)

Genus TRYPANOPHORA, *Kollar.*

TRYPANOPHORA, *Kollar, in Hügel's Kaschmir*, IV. *pt.* II. *p.* 457 (1844). *Walker, List Lep. Het. Brit. Mus. pt.* I. *p.* 3.

755. *TRYPANOPHORA SEMIHYALINA, Kollar.*

♀ Trypanophora semihyalina, *Kollar, in Hügel's Kaschmir*, IV. *pt.* II. *p.* 457, *pl.* xix. *f.* 1 (1844). *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 434. *Moore, P. Z. S.* (1859), *p.* , *pl.* , *figs.* 1, 2, ♂ ♀.

♀ Syntomis humeralis, *Walker, List Lep. Het. Brit. Mus. pt.* VII. *p.* 1593 (1856).

a. b. ♂ ♀. N. India. From the Asiatic Society of Bengal.

c. d. ♀. N. India. Presented by Col. Buckley.

Remark.—M. Kollar's description and figure of *Tryp. semihyalina* applies to the female only. The male differs in having the antennæ thickly bipectinated (this in the female being minutely bipectinated and slightly clavate at the tip); the wings are narrower, the hyaline spots of the fore-wing less in size, and the two near the posterior angle are covered with ochreous scales; the entire disc of the hind-wing is hyaline.

The larva of *Tryp. semihyalina* is figured in Plate XIV. fig. 6, copied from the original drawing in the collection of A. Grote, Esq. "Feeds on *Raphis lepis*."—(Grote, MS. Note.)

The transformations of this interesting species were also observed by Gen. Hardwicke, and are figured in vol. 10999, fig. 181, and vol. 11001, figs. 23, 26, and 90 of his original drawings, now in the Library of the British Museum.

Genus SYNTOMIS, *Ochsenheimer.*

SYNTOMIS, *Ochsenheimer, Schmett. von Eur.* II. *p.* 103 (1807). *Walker, List Lep. Het. Brit. Mus. pt.* I. *p.* 117 (1854).

AMATA, *Fabricius, Syst. Gloss.* (*Illiger's Mag.* VI. *p.* 289).

CHRYSAORES EXCELSÆ SYNTOMES, *et* CŒNOCHROMIA, *et* EUTOMES, *Hübner, Verz. bek. Schmett.* (1819).

SPHINX, *pt. Linnæus.*

ZYGÆNA, *pt. Fabricius.*

756. *SYNTOMIS FENESTRATA, Drury Sp.*

Sphinx fenestrata, *Drury, Ill. Nat. Hist.* II. *p.* 50, *pl.* 28, *f.* 5 ( ).

Syntomis fenestrata, *Boisduval, Monogr. Zyg. p.* 124, *pl.* 8, *f.* 1. *Walker, List Lep. Het. Brit. Mus. pt.* I. *p.* 124. *Herr. Schäffer, Lep. Exot. Spec. Nov. ser.* I. *f.* 270, *p.* 72.

Zygæna fenestrata, *Fabricius, Spec. Ins.* II. *p.* 160; *Mant. Ins.* II. *p.* 103; *Ent. Syst.* III. I. *p.* 392.

Sphinx Zygæna fenestrata, *Gmélin, Syst. Nat.* I. V. *p.* 2394.

a. China. Presented by Dr. Cantor.

757. *SYNTOMIS SCHŒNERRHI, Boisduval.*

Syntomis Schœnerrhi, *Boisduval, Monogr. Zyg. p.* 112, *pl.* 7, *f.* 1 (1829). *Walker, List Lep. Het. Brit. Mus. pt.* I. *p.* 120.

Syntomis bicincta, *Kollar, in Hügel's Kaschmir,* IV. *pt.* II. *p.* 460, *pl.* 19, *f.* 8 (1844).

a. b. c. Darjeeling. From Messrs. Schlagintweit's Collection.

758. *SYNTOMIS MARSDENI, Moore.*

Syntomis Marsdeni, *Moore, P. Z. S.* (1859), *p.* , *pl.* , *fig.* .

a. b. Java. From Dr. Horsfield's Collection.

Syntomis Marsdeni, n. sp. — Blackish-brown; *fore-wing* with five whitish transparent spots,—one within discoidal cell, two on posterior margin, and two near the apex; *hind-wing* with yellowish base, and small whitish transparent discal spot; front of head, collar, shoulders, and abdominal bands, ochreous-yellow; antennæ tipped with white. Expanse of wings $\frac{8}{10}$ in.

759. *SYNTOMIS VIGORSI, Moore.*

Syntomis Vigorsi, *Moore, P. Z. S.* (1859), *p.* , *pl.* , *fig.* .

a. b. c. Java. From Dr. Horsfield's Collection.

Syntomis Vigorsi, n. sp.—Male, black, glossed with metallic green; *fore-wing* with five quite transparent spots; *hind-wing* with one rather large central transparent spot; *body* dark metallic green; *antennæ* filiform, tipped with yellow. Female duller-coloured, and the spots larger. Expanse of male 1 in., of female $1\frac{1}{4}$ in.

760. *SYNTOMIS IMAON, Cramer Sp.*

Sphinx Adscita Imaon, *Cramer, Pap. Exot.* III. *p.* 94, *pl.* 248, *f. E.*

Syntomis Imaon, *Hübner, Verz. bek. Schmett. p.* 122. *Boisduval, Monogr. Zyg. p.* 114. *Walker, List Lep. Het. Brit. Mus. pt.* I. *p.* 127.

a. b. Java. From Dr. Horsfield's Collection.

761. *SYNTOMIS SUBCORDATA, Walker.*

Syntomis subcordata, *Walker, List Lep. Het. Brit. Mus. pt.* I. *p.* 132 (1854).

a. Bengal. Mr. Grote's Drawing.

The larva of *Synt. subcordata* is figured on Plate XIV., fig. 7, copied from the original drawing in the collection of A. Grote, Esq. "Feeds on *Vitis pallida*."—(Grote, MS. Note.)

762. *SYNTOMIS PFEIFFERÆ, Moore.*

Syntomis Pfeifferæ, *Moore, P. Z. S.* (1859), *p.* , *pl.* , *fig.* .

a. b. c. ♂ ♀. Java. From Dr. Horsfield's Collection.

Syntomis Pfeifferæ, n. sp.—Male, dark-brown; *fore-wing* with five pale yellow spots,—one disposed at the base of posterior margin, two inwardly oblique across the middle, and two from near apex; *hind-wing*, with its middle and along abdominal margin, yellow; *body* brown, with the face, collar, spots on thorax, and abdominal bands, yellow. Female, ferruginous-brown, the spots larger, and ochreous-yellow. Antennæ filiform in both sexes. Expanse of male $1\frac{1}{8}$ in., of female $1\frac{2}{8}$ in.

Remark.—This species is somewhat allied to *S. tenuis*, Walker, from Celebes.

763. *SYNTOMIS WALLACEI, Moore.*

Syntomis Wallacei, *Moore, P. Z. S.* (1859), *p.* , *pl.* , *fig.* .

a. b. Java. From Dr. Horsfield's Collection.

Syntomis Wallacei, n. sp.—Purple-brown; *fore-wing* with five and *hind-wing* with two semi-transparent small rounded yellowish spots; *body* with the face, collar, and abdominal bands, bright yellow; tip of antennæ and first joint of tarsi, white. Expanse of wings 1¼ in.

764. *SYNTOMIS CREUSA, Linnæus Sp.*

Sphinx Creüsa, *Linnæus, Syst. Nat.* II. *p.* 806 (1767); *Mus. Lud. Ulr. p.* 365. *Clerck, Icones, pl.* 46, *f.* 5. *Cramer, Pap. Exot.* III. *pl.* 248, *f. F.*

Syntomis Creüsa, *Walker, List Lep. Het, Brit. Mus. pt.* I. *p.* 123.

Sphinx - Zygæna Creüsa, *Gmelin, Syst. Nat.* I. V. *p.* 2394.

Cœnochromia Creüsa, *Hübner, Verz. bek. Schmett. p.* 121.

a. b. ♂. Ceylon. From the Asiatic Society of Bengal.

c. d. ♂ ♀. N. India. Presented by Col. Buckley.

765. *SYNTOMIS LATREILLEI, Boisduval.*

Syntomis Latreillei, *Boisduval, Monogr. Zyg. p.* 117, *pl.* 7, *f.* 5 (1829). *Chenu, Encycl. d'Hist. Nat. Pap. p.* 246, *f.* 426. *Walker, List Lep. Het. Brit. Mus. pt.* I. *p.* 121.

a. b. c. d. ♂ ♀. Dukhun. Presented by Col. Sykes.

766. *SYNTOMIS PENANGA, Moore.*

Syntomis Penanga, *Moore, P. Z. S.* (1859), *p.* , *pl.* , *fig.* .

a. Penang. Presented by Dr. Cantor.

Syntomis Penanga, n. sp.—*Fore-wing* with two longitudinal narrow yellowish streaks from the base to one-third its length, also with two upper and one lower silvery transparent spots; *hind-wing* with a central transparent space, suffused anteriorly with yellowish; *body*,

with the collar, lower part of thorax, and band along lower margin of abdominal segments, yellowish; *antennæ* bipectinated, margined with whitish to near the tip. Expanse of wings 1 in.

767. *SYNTOMIS CANTORI, Moore.*

Syntomis Cantori, *Moore, P. Z. S.* (1859), *p.* *pl.* , *fig.* .

a. Penang. Presented by Dr. Cantor.

Syntomis Cantori, n. sp.—*Fore-wing*, from the base to near one-third its length, a small disco-cellular spot, apex, and narrowly along exterior margin, black, which also extends slightly up the first median veinlet, the middle portion of the wing being transparent and where the veins and costal margin are yellow: *hind-wing* black, with a minute transparent spot in the centre; *ciliæ* black; *body* wholly black, glossed with green; *antennæ* broken off. Expanse of wings $1\frac{5}{12}$ in.

768. *SYNTOMIS WALKERI, Moore.*

Syntomis Walkeri, *Moore, P. Z. S.* (1859), *p.* , *pl.* , *fig.* .

a. b. ♂ ♀. Java. From Dr. Horsfield's Collection.

Syntomis Walkeri, n. sp.—Male, dark brown; *fore-wing* with seven yellow spots, two being disposed along costal margin, and narrow, two along posterior margin, the outer one of which has a minute spot above it, and two obliquely near the apex; *hind-wing* with costal margin whitish, and two yellow spots from the base; *body* with the collar, shoulders, and abdominal bands yellow. Female paler throughout, and the spots larger; *antennæ* bipectinated in the male, filiform in the female. Expanse of male $\frac{10}{12}$ in., of female 1 in.

769. *SYNTOMIS PRAVATA, Moore.*

Syntomis Pravata, *Moore, P. Z. S.* (1859), *p.* , *pl.* , *fig.* .

a. b. Java. From Dr. Horsfield's Collection.

Syntomis Pravata, n. sp.—Fuliginous-black; *fore-wing* with two transverse pairs of small white spots; *hind-wing* with two small white spots; *ciliæ* at the apex of each wing, and tip of antennæ, white; *antennæ* bipectinated, filiform at the tip.

770. *SYNTOMIS RAFFLESI, Moore.*

Syntomis Rafflesi, *Moore, P. Z. S.* (1859), *p.* , *pl.* , *fig.* .

a. b. ♂ ♀. Java. From Dr. Horsfield's Collection.

Syntomis Rafflesi, n. sp.—Male, smoky-black; *fore-wing* with two very narrow ochreous-yellow streaks at the base, and three transparent spots on the apical half, two being disposed transversely to posterior angle, the other near the apex; *hind-wing* with a transparent spot on the abdominal margin, also a small yellow central spot; front of head, collar, base of thorax, and narrow abdominal bands, ochreous-yellow. Female paler, with the ochreous-yellow brighter, the transparent spots being tinged with the same. *Antennæ* bipectinated in both sexes. Expanse of male $\frac{7}{8}$ in., of female $1\frac{1}{8}$ in.

771. *SYNTOMIS CRAWFURDI, Moore.*

Syntomis Crawfurdi, *Moore, P. Z. S.* (1859), *p.* , *pl.* , *fig.* .

a. b. c. Java. From Dr. Horsfield's Collection.

Syntomis Crawfurdi, n. sp.—Black; *fore-wing* with a narrow costal streak near the base, two longitudinal spots in the middle of the wing, and five small spots disposed in a semicircle near the apex, transparent; *hind-wing* with anterior margin and two spots, transparent; base of both wings coppery-red: *body* black, with the collar, shoulders, and abdominal bands coppery-red; *antennæ* bipectinated, metallic-green. Expanse of wings nearly 1 in.

Genus PHALANNA, *Walker.*

Euchromia (Phalanna) *Walker, List Lep. Het. Brit. Mus. pt.* I. *p.* 218 (1854).

Euchromia, *pt. Hübner.*

772. *PHALANNA POLYMENA, Linnæus Sp.*

Sphinx Polymena, *Linnæus, Syst. Nat.* II. *p.* 806 (1767). *Ray, Ins. p.* 135. *Drury, Exot. Ins.* I. *pl.* 26, *f.* 1.

Zygæna Polymena, *Fabricius, Spec. Ins.* II. *p.* 162; *Mant. Ins.* II. *p.* 104; *Ent. Syst.* III. I. *p.* 396.

Sphinx Adscita Polymena, *Cramer, Pap. Exot.* I. *pl.* 13, *f. D.*

Sphinx - Zygæna Polymena, *Gmélin, Syst. Nat.* I. V. 2394.

Euchromia Polymena, *Hübner, Verz. bek. Schmett. p.* 121.

Glaucopis Polymena, *Westwood's edit. Drury's Exot. Ins. 2nd ed.* I. *p.* 50, *pl.* 26, *f.* 1.

Euchromia (Phalanna) Polymena, *Walker, List Lep. Het. Brit. Mus. pt.* I. *p.* 219.

a. Calcutta. From the Asiatic Society of Bengal.
b. Assam. From McClelland's Collection.
c. d. N. India. Presented by Colonel Buckley.
e. Darjeeling. From Messrs. Schlagintweit's Collection.

The larva, pupa, and cocoon of *Phal. Polymena* are figured on Plate XIV., figs. 8, 8*a*, 8*b*, copied from the original drawing in the collection of A. Grote, Esq.

"Feeds on *Convolvulus*."—(Grote, MS. Note.)

Transformations of this species were observed in Canara by S. N. Ward, Esq.; and are also figured among the drawings in the Entomological Society's Library, made by Mrs. Hamilton.

Capt. Mortimer Slater says, in his MS. Notes, p. 152, "I often met with this insect (*P. Polymena*) at Dacca in 1844, and always in the hottest sunshine. It was generally taken on tall thistles, which appear to have a great attraction for this as well as other insects."

773. *PHALANNA HORSFIELDI, Moore.*

Phalanna Horsfieldi, *Moore, P. Z. S.* (1859), *p.* , *pl.* , *fig.* .

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

Phalanna Horsfieldi, n. sp. — Dark brown; *fore-wing* with a lengthened spot below the cell, indented in middle of its posterior margin, a shorter spot within the cell, and a transverse oblique row of spots near the apex, deep yellow; a small spot at base, and another near middle of the wing, indigo-blue: *hind-wing* with large yellow spot in its middle, and a semi-transparent spot near the base, the upper half of the latter being yellow; *body* black; face, spot on each shoulder, and under-side white; *abdomen* with two deep-yellow

bands, one being situated at the base, and the other on the fourth segment; top of head, thorax, and margin of the other abdominal segments, indigo-blue; *antennæ* bipectinated. Expanse of wings $1\frac{7}{12}$ in.

The larva and cocoon of *Ph. Horsfieldi* are figured on Plate XIV., figs. 9, 9*a*, from Java. "Feeds on a species of *Dioscorea*, bearing the native name of *Buduk-assu*. From the Southern Hills. December. Scarce."—(Horsfield, MS.)

Genus PHAUDA, *Walker*.

EUCHROMIA (PHAUDA), *Walker, List Lep. Het. Brit. Mus. pt.* I. *p.* 256 (1854).

XENARES, *Herr. Schäffer, Lep. Exot. Spec. Nov. pp.* 58, 81 (1858).

774. *PHAUDA FLAMMANS, Walker.*

Euchromia (Phauda) flammans, *Walker, List Lep. Het. Brit. Mus. pt.* I. *p.* 257 (1854).

a. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

775. *PHAUDA* (?) *MAHISA, Moore.*

Phauda Mahisa, *Moore, P. Z. S.* (1859), *p.* , *pl.* , *fig.* .

a. Java. From Dr. Horsfield's Collection.

Phauda (?) *Mahisa, n. sp.*—*Wings* pale smoky-black; a band along entire length of costal margin of *fore-wing*, and along costal and abdominal margins of *hind-wing*, and *body* pale red; *antennæ* slightly serrated. Expanse of wings $1\frac{1}{10}$ in.

Genus SORITIA, *Walker*.

SORITIA, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 435 (1854).

776. *SORITIA LEPTALINA, Kollar Sp.*

Chalcosia leptalina, *Kollar, in Hügel's Kaschmir*, IV. *pt.* II. *p.* 462 (1844).

Soritia leptalina, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 435.

a. Silhet. Presented by the Trustees of the British Museum.

b. Bootan. From Pemberton's Collection.

Genus AGALOPE, *Walker*.

AGALOPE, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 437 (1854).

777. *AGALOPE BASALIS, Walker* (*Plate* VIII*a*, *fig.* 5).

Agalope basalis, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 438 (1854).

a. *b*. *c*. N. India. Presented by Colonel Buckley.

Genus HERPA, *Walker*.

HERPA, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 442 (1854).

778. *HERPA VENOSA, Walker* (*Plate* VIII*a*, *fig.* 6).

Herpa venosa, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 442 (1854).

a. Silhet. Presented by the Trustees of the British Museum.

b. *c*. Darjeeling. From Messrs. Schlagintweit's Collection.

Genus CALLIDULA, *Hübner*.

CALLIDULA, *Hübner, Verz. bek. Schmett. n.* 638 (1816).

PETAVIA, *Horsfield, Desc. Catal. Lep. Mus. E.I.C. pl.* 2, *f.* 1 (1828).

779. *CALLIDULA PETAVIA, Cramer Sp.*

Papilio Petavius, *Cramer, Pap. Exot.* IV. *pl.* 365, *f. C. D.* (1782).

Callidula Petavia, *Hübner, Verz. bek. Schmett. n.* 638.

Polyommatus Patavius, *Godart, Enc. Meth. Hist. Nat.* IX. *p.* 676.

Petavia Sakuni, *Horsfield, Desc. Catal. Lep. Mus. E.I.C. pl.* 2, *figs.* 1, 1*a*. *Westwood, in Doubleday and Hewitson's Diurnal Lep. pl.* 77, *f.* 7.

a. *b*. *c*. *d*. ♂ ♀. Java. From Dr. Horsfield's Collection.

Genus NYCTEMERA, *Hübner*.

NYCTEMERA, *Hübner, Verz. bek. Schmett. p.* 178 (1816). *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 391.
DEILEMERA, *Hübner*, id.
LEPTOSOMA, *Boisduval.*

780. *NYCTEMERA DISTINCTA, Walker.*

Nyctemera distincta, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 392 (1854).

a. b. c. d. e. ♂ ♀. Java. From Dr. Horsfield's Collection.

781. *NYCTEMERA TRITA, Walker* (*Plate* VIII*a. fig.* 9).

Nyctemera trita, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 394 (1854).

a. b. c. d. e. f. ♂ ♀. Java. From Dr. Horsfield's Collection.

782. *NYCTEMERA LATISTRIGA, Walker.*

Nyctemera latistriga, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 397 (1854).

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. f. ♂ ♀. Canara. Presented by S. N. Ward, Esq.

783. *NYCTEMERA LACTICINIA, Cramer Sp.*

Phalæna-Geometra Lacticinia, *Cramer, Pap. Exot.* II. *p.* 47, *pl.* 128, *f. E.* (1779).

Nyctemera Lacticinia, *Hübner, Verz. bek. Schmett. p.* 178. *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 395.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. f. g. ♂ ♀. Ceylon. From Jonville's Collection.

The larva and pupa of *Nyct. Lacticinia* are figured on Plate XIV., figs. 10, 10*a*, from Java. "Feeds on *Cacalia conchifolia*, which bears the native name of *Tempo-wijung*. February."—(Horsfield, MS.)

784. *NYCTEMERA TRIPUNCTARIA, Linnæus Sp.*

Phalæna-Geometra tripunctaria, *Linnæus, Syst. Nat. pt.* II. *p.* 864 (1767); *Mus. Lud. Ulr. p.* 395. *Cramer, Pap. Exot.* I. *p.* 34, *pl.* 22, *f. E. Fabricius, Spec. Ins.* II. *p.* 249; *Mant. Ins.* II. *p.* 191 (*Edwards's Nat. Hist. of Birds*, I. *pl.* 35).

Nyctemera tripunctaria, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 397.

Nyctemera atralba, *Hübner, Verz. bek. Schmett. p.* 178.

a. ♂ ♀. Penang. Presented by Dr. Cantor.

785. *NYCTEMERA COLETA, Cramer Sp.*

Phalæna-Geometra Coleta, *Cramer, Pap. Exot.* IV. *p.* 153, *pl.* 368, *f. H.* (1782).

Nyctemera Coleta, *Hübner, Verz. bek. Schmett. p.* 178. *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 399.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

786. *NYCTEMERA CENIS, Cramer Sp.*

Phalæna-Geometra Cenis, *Cramer, Pap. Exot.* II. *p.* 82, *pl.* 147, *f. E.* (1779).

Nyctemera interlecta, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 400 (1854).

a. Darjeeling. From Pearson's Collection.

b. Cherra Poonjee. Presented by Col. Buckley.

c. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

787. *NYCTEMERA VARIANS, Walker.*

Nyctemera varians, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 400 (1854).

a. b. c. d. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

Genus PTEROTHYSANUS, *Walker.*

PTEROTHYSANUS, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 401, (1854).

788. *PTEROTHYSANUS LATICILIA, Walker* (*Plate* VIII*a*, *fig.* 8, ♂).

♂ Pterothysanus laticilia, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 401 (1854).

a. b. c. d. ♂ ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

Genus EUSCHEMA, *Hübner.*

EUSCHEMA, *Hübner, Verz. bek. Schmett. p.* 175 (1816). *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 405.

HAZIS, *pt. Boisduval.*

789. *EUSCHEMA MILITARIS, Linnæus Sp.*

Phalæna-Attacus militaris, *Linnæus, Syst. Nat.* I. II. *p.* 811 (1767); *Mus. Lud. Ulr. p.* 375. *Cramer, Pap. Exot.* I. *p.* 46, *pl.* 29, *f. B.* (*Rœsel, Ins.* IV. *pl.* 6, *f.* 3. *D'Aubent, Misc. pl.* 67, *f.* 1).

Euschema militaris, *Hübner, Verz. bek. Schmett. p.* 175. *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 405.

Bombyx militaris, *Fabricius, Syst. Ent. p.* 559; *Spec. Ins.* II. *p.* 171; *Mant. Ins.* II. *p.* 110. *Donovan, Epit. Ins. Ind. pl.*

Hazis militaris, *Boisduval. Voy. de l'Astrolabe, Lép. pt.* II. *p.* 203. *Feisthamel, Voy. de la Favorite, Suppl. p.* 20. *Guénee, Hist. Nat. des Ins. Lép.* X. *Geometræ, p.* 193.

a. b. c. ♂ ♀. Java. From Dr. Horsfield's Collection.

d. e. f. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

790. *EUSCHEMA DISCALIS, Walker.*

Euschema discalis, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 407 (1854).

a. ♀. N. India. Presented by the Trustees of the British Museum.

791. *EUSCHEMA HORSFIELDI, Moore* (*Plate* VIII*a*, *fig.* 7).

Euschema Horsfieldi, n. sp.—Female, *fore-wing* blue-black, with a longitudinal streak from the base, and three transverse interrupted and irregular bluish-white bands; two deep-yellow marks extending upward from the posterior margin,—the first from its middle, the second from near the angle: *hind-wing* deep yellow, with two rounded discal spots, a submarginal row of lunated and a marginal row of rounded spots, blue-black; *antennæ* and fore-legs blackish; *body* yellow; top of the head, two bands across the thorax, and bands of abdomen, blue-black. Expanse $3\frac{1}{4}$ in.

a. ♀. Java. From Dr. Horsfield's Collection.

792. *EUSCHEMA TRANSVERSA, Walker.*

Euschema transversa, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 407 (1854).

a. b. c. ♂ ♀. Ceylon. From Jonville's Collection.

d. e. ♂ ♀. Dukhun. Presented by Col. Sykes.

Stirps II.—Larvæ FASCICULATÆ.

The larva of this stirps is characteristically *fasciculate*, being covered with fascicles or tufts of silken hairs; several of these tufts are short, dense, disposed along the back, and limited to certain segments, while others are more lengthened, projecting anteriorly or posteriorly, or *both* anteriorly and posteriorly. In some genera these fascicles are replaced by short hairs arising from separate tubercles. Metamorphosis:—Cocoon soft, irregular on the surface, of a slight silken and hairy texture.

The perfect insect has the wings broad in the male, longer, or only *rudimentary*, in the female; flies by day and evening. Antennæ deeply bipectinated in the male, less so in the female. Proboscis very short, or obsolete. Abdomen of male slender, of female larger, broad, and generally with an anal tuft. Fore-legs very hairy.

PHALÆNA *sect.* BOMBYCES, *pt. Linnæus, S. N.* I. II. (1767).

BOMBYCES (*Larvæ* D. G. H. FASCICULATÆ, NODOSÆ, *et* CRISTATÆ), *Denis et Schieffermüller, Wien. Verz. pp.* 51, 54, 55 (1776).

BOMBYCIDÆ (*Stirps* I. FASCICULATÆ, *pt.*), *Horsfield, Catal. Lep. Mus. E.I.C. pp.* 24, 27 (1828).

BOMBYX, *pt. Haworth, Lep. Brit. pp.* 76, 77, 124 (1803).

BOMBYCITES, *sect.* LEGITIMÆ, *pt. Latreille, Gén. Crust. et Ins.* IV. *p.* 217 (1809).

ARCTIIDÆ, *pt. Leach, Edinb. Encycl. p.* (1815). *Stephens, Ill. Brit. Ins. Haust.* II. *p.* 54 (1828); id. *Catal. Brit. Lep. Brit. Mus. p.* 49 (1850). *Westwood, Introd.* II. *p.* 384 (1840).

HYPOGYMNÆ, LEUCOMÆ, *et* DASYCHIRÆ, *Hübner, Zuträge, p.* 4 (1818).

BOMBYCIDA, *pt. Duncan, in Brewster's Edinb. Encycl.* IX. *p.* 132 (1830).

NOTODONTÆ *et* LARIÆ, *pt. Newman, Sph. Vesp. pp.* 42, 44 (1832).

ARCTIITES *et* NOTODONTITES, *pt. Newman, Entom. Mag.* II. *p.* 383 (1834); id. *Hist. of Ins. 2nd edit. pp.* 212, 213 (1841).

LIPARIDES *et* NOTODONTIDES, *pt. Boisduval, Ind. Méth. pp.* 66, 84 (1840).

LIPARITES *et* PYGÆRITES, *pt. Blanchard, Hist. Nat. des Ins.* II. *pp.* 362, 365 (1845).

NOTODONTIDÆ, *pt. Stephens, Ill. Brit. Ins. Haust.* II. *p.* 10 (1829); id. *Catal. Brit. Lep. Brit. Mus. p.* 37 (1850). *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 977 (1855). *Stainton, Manual Brit. Lep. pp.* 107, 114 (1856).

PYGERIDI *et* LIPARIDI, *Stephens, Catal. Brit. Lep. Brit. Mus. pp.* 37, 49 (1850).

LIPARIDÆ, *Stainton, Manual Brit. Lep. pp.* 107, 128 (1856).

LIPARIDÆ, *pt. Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 780 (1855).

LIPARIDINA, *pt. Herr. Schäffer, Lep. Exot. Spec. Nov. p.* 69 (1858).

Genus REDOA, *Walker.*

REDOA, *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 826 (1855).

793. *REDOA SUBMARGINATA, Walker.*

Redoa submarginata, *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 826 (1855).

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

The larva and pupa of *Redoa submarginata* are figured on Plate XIV., figs. 11, 11*a*, from Java. "Feeds on the Mango (*Mangifera indica*). May and June."—(Horsfield, MS.)

794. *REDOA RINARIA, Moore.*

Redoa Rinaria, n. sp.—Male and female, silvery-white; *fore-wing* with a narrow undulating brownish line from apex to middle of posterior margin; antennæ and body white; palpi black above; tarsus and tibia of fore and middle pair of legs with black spots. Expanse of male 1½ in., of female 2 in.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

Genus PANTANA, *Walker.*

PANTANA, *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 819 (1855).

795. *PANTANA BASWANA, Moore* (*Plate* IX*a*, *fig.* 1).

Pantana Baswana, n. sp.—Male, white; *fore-wing* with the apical third brownish, the basal portion having a brownish tinge, some black dots along the disc below the cell; *hind-wing* with the margin brownish;

antennæ pale brown; palpi ferruginous; body beneath and legs testaceous white. Expanse 1½ in.

a. b. c. ♂. Java. From Dr. Horsfield's Collection.

Genus AROA, *Walker.*

AROA, *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 791 (1855).
GYNÆPHORA, *pt. Hübner.*

796. *AROA SOCRUS, Hübner Sp.*

Gynæphora Socrus, *Hübner, Geyer, Zuträge, pt.* IV. *p.* 12, *figs.* 837, 838 (1837).
Aroa substrigosa, *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 794 (1855).

a. b. c. ♂. Java. From Dr. Horsfield's Collection.

Genus PROCODECA, *Walker.*

PROCODECA, *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 812 (1855).
RICINE, *Walker*, id. *p.* 824 (1855).

797. *PROCODECA ANGULIFERA, Walker.*

♂ Procodeca angulifera, *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 919 (1855).
♀ Ricine suffusa, *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 824 (1855).

a. b. c. d. e. f. ♂ ♀. Java. From Dr. Horsfield's Collection.

798. *PROCODECA ADARA, Moore.*

Procodeca Adara, n. sp.—Female, pale dull brownish-testaceous, of a somewhat transparent hue; *fore-wing* with three brown dots below the extremity of the cell; the ciliæ of both wings waved, giving it the appearance of being spotted. Expanse 1½ in.

a. ♀. Java. From Dr. Horsfield's Collection.

Genus PSALIS, *Hübner.*

PSALIS, *Hübner, Zuträge, pt.* II. *p.* 19, *f.* 291-2 (1823).
ARESTHA, *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 805 (1855).

799. *PSALIS SECURIS, Hübner.*

♀ Psalis securis, *Hübner, Zuträge, pt.* II. *p.* 19, *f.* 291–2 (1823); *Samml. Exot. Schmett.* III. *pp.* 9, 146, *f.* 291–2.

Drepana securis, *Walker, List Lep. Het. Brit. Mus. pt.* VII. *p.* 1762.

♂ Arestha antica, *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 805 (1855).

a. b. c. d. e. f. ♂ ♀. Java. From Dr. Horsfield's Collection.

The larva and cocoon of *Psalis securis* are figured on Plate XIV., figs. 12, 12*a*, from Java. "Feeds on the *Oryza sativa*, bearing the native names of *Pari* or *Pady*. January to March. Common."—(Horsfield, MS.)

The transformations of this species are also figured among the original drawings made in India by Lady Isabella Gilbert.

Genus DASYCHIRA, *Stephens.*

Dasychira, *Stephens, Ill. Brit. Ins. Haust.* II. *p.* 58 (1828).

Phalæna-Bombyx, *pt. Linnæus.*

Bombyx, *pt. Fabricius.*

Laria, *pt. Schrank.*

800. *DASYCHIRA HORSFIELDI, Saunders Sp.*

Arctia Horsfieldii, *Saunders, Trans. Ent. Soc. n. s.* I. *p.* 162, *pl.* 12, *f.* 1, 2 (1851); *Zoologist*, IX. *p.* 3070. *Walker, List Lep. Het. Brit. Mus. pt.* III. *p.* 613.

a. ♂. Java. From Dr. Horsfield's Collection.

The larva, pupa, and cocoon of *Dasy. Horsfieldi* are figured on Plate XIV., figs. 13, 13*a*, from Java. "Feeds on the *Kapas* (*Gossypium herbaceum*). August."—(Horsfield, MS.)

801. *DASYCHIRA GROTEI, Moore.*

Dasychira Grotei, n. sp.—Female, white; *fore-wing* irrorated with minute brown scales; *hind-wing* white; antennæ brown; head, thorax, abdomen, and legs white. Expanse 2⅝ in.

a. ♀. N. India. Donor unknown.

b. ♀ (?). Penang. Presented by Dr. Cantor.

The larva and cocoon of *Dasy. Grotei* are figured on Plate XV., figs. 1, 1*a*, copied from the original drawing in the collection of A. Grote, Esq. "Feeds on *Terminalia catalpa*."—(Grote, MS. Note.)

802. *DASYCHIRA ARGA, Moore.*

Dasychira Arga, n. sp.—Female, white; *fore-wing* irrorated with minute brown scales, and having some transverse undulated indistinct brown lines; *hind-wing* white; antennæ, head, thorax, and fore-legs irrorated with brown scales; abdomen white. Expanse $3\frac{3}{8}$ in.

a. ♀. Java. From Dr. Horsfield's Collection.

803. *DASYCHIRA MARUTA, Moore.*

Dasychira Maruta, n. sp.—Female, grey; *fore-wing* densely irrorated with dark-brown scales, with three transverse irregular dark-brown lines,—the first sub-basal, the second nearly adjoining, and bifid anteriorly, the third beyond the disc, blackish, recurved, and undulated,—a fourth submarginal zigzag line, a marginal row of spots, and an indistinct pale discal spot: *hind-wing* paler, with two very indistinct suffused brownish discal bands, and a submarginal brown line; head, thorax, and abdomen dark grey. Expanse $2\frac{5}{8}$ in.

a. ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

804. *DASYCHIRA INCLUSA, Walker.*

Dasychira inclusa, *Walker, List Lep. Het. Brit. Mus. pt.* VII. *p.* 1737 (1856).

a. b. c. d. e. f. g. h. i. j. ♂ ♀. Java. From Dr. Horsfield's Collection.

The larva and cocoon of the female of *Dasy. inclusa* are figured on Plate XV., figs. 2, 2*a*, from Java. "Feeds on a species of *Calyptranthes*, bearing the native name of *Yuet*. April. Feeds also on the *Waringin* (*Ficus sp.*——); the *Dadap* (*Erythrina sp.*——); and the *Girang* (*Leea sp.*——)."—(Horsfield, MS.)

805. *DASYCHIRA CHALANA, Moore.*

Dasychira Chalana, n. sp.—Female, dark brown, palest on the exterior margin; *fore-wing* with a broad zigzag-margined band across the middle, and along the posterior margin and about the apex,

greenish-white, a submarginal zigzag brown line; *hind-wing* pale brown; antennæ, palpi, head, and front of thorax, dark brown; hind-part of thorax and abdomen pale brown; legs brown, with hoary spots. Expanse 1⅝ in.

a. b. ♂ ♀. Java. From Dr. Horsfield's Collection.

806. *DASYCHIRA MISANA, Moore* (*Plate* IX*a*, *fig.* 2, ♂).

Dasychira Misana, n. sp.—Male, brown; *fore-wing*, from the base broadly along the costa to middle of the disc, and upward to near the anterior angle, white, on which are some indistinct brown wavy marks; a dark-brown zigzag line extending from near posterior angle up the disc; a submarginal row of dark-brown dots bordered inwardly with white: *hind-wing* pale brown, with paler margin; antennæ, body, and legs, brown. Expanse 1⅜ in.

a. b. ♂. Java. From Dr. Horsfield's Collection.

807. *DASYCHIRA ASVATA, Moore.*

Dasychira Asvata, n. sp.—Dark brown. Male, *fore-wing* with a black spot at the base, a white narrow bifid line along the discoidal veins from the base to the apex, a transverse zigzag dark line one-third from the apex, and a submarginal row of dark dots; *hind-wing* pale brown; antennæ, head, body, and legs, dark brown. Female with the discoidal and apical veins whitish, and some brown patches about the disc and along exterior margin. Expanse of male 1⅜ in., of female 2⅜ in.

a. b. ♂ ♀. Java. From Dr. Horsfield's Collection.

808. *DASYCHIRA SAWANTA, Moore.*

Dasychira Sawanta, n. sp.—*Fore-wing* brown, with a rounded dark-margined whitish spot near the base, and a pale-brown spot on lower part of the disc; a transverse slightly-curved dark line from the costa one-third from the base, and a lengthened dark spot one-third from the apex, also an indistinct dark submarginal zigzag line; *hind-wing* brownish-white; antennæ, head, and thorax, brown; abdomen brownish-white, with a darker dorsal line. Expanse 1⅜ in.

a. ♂. Java. From Dr. Horsfield's Collection.

809. *DASYCHIRA APSARA, Moore.*

Dasychira Apsara, n. sp.—Female, silky-white; *fore-wing* with the veins yellowish basally, and brownish apically; palpi and hairs beneath the head, blackish; thorax above and beneath, and legs, white; abdomen blackish, with white segmental bands, narrow above, broad beneath; anal tuft, yellowish. Expanse $1\frac{3}{4}$ in.

a. ♀. N. India. Presented by Col. Buckley.

810. *DASYCHIRA ILITA, Moore.*

? Redoa argentea, *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 827 (1855).

a. ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

Dasychira Ilita, n. sp.—Silky-white. Female, *fore-wing* with all the veins, except the costal, blackish; head, thorax, abdomen, and anal tuft, white. Expanse 2 in.

Genus OLENE, *Hübner.*

OLENE, *Hübner, Zuträge, f.* 293, 294 (1823).
RILIA, *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1075 (1855).

811. *OLENE MENDOSA, Hübner.*

Olene mendosa, *Hübner, Zuträge, f.* 293, 294 (1823).
Rilia lanceolata, *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1075 (1855).

a. b. ♀. Java. From Dr. Horsfield's Collection.
c. ♀. Canara. Presented by S. N. Ward, Esq.

The larva and cocoon of *Olene mendosa* are figured on Plate XV., figs. 3, 3*a*, from Java. "Feeds on a species of *Cassia*, which bears the native names of *Keteppeng* and *Dadap*. April."—(Horsfield, MS.)

Genus ILEMA, *Moore.*

MELIA,* *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 808 (1855).

* This name has been previously used among Lepidoptera.

812. *ILEMA COSTALIS, Walker Sp.*

Melia costalis, *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 808 (1855).

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

The larva and pupa of *Ilema costalis* are figured on Plate XV., figs. 4, 4*a*, from Java. "Feeds on the *Dadap* (*Erythrina sp.*——); the *Galing* (*Cissus sp.*——); and the *Gerang* (*Leea sp.*——). December to January. Not common."—(Horsfield, MS.)

Genus LYMANTRIA, *Hübner.*

LYMANTRIA, *Hübner, Verz. bek. Schmett. p.* 160 (1816). *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 870.

HYPOGYMNA *et* PSILURA, *Stephens, Ill. Brit. Ent. Haust.* II. *pp.* 55, 79 (1828).

PHALÆNA-BOMBYX, *pt. Linnæus.*

BOMBYX, *pt. Fabricius.*

LARIA, *pt. Schrank.*

LIPARIS, *pt. Ochsenheimer.*

PORTHETRIA, *pt. Hübner.*

PORTHETRIA, *Westwood.*

813. *LYMANTRIA LINEATA, Walker.*

Lymantria lineata, *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 875 (1855).

a. ♀. Java. From Dr. Horsfield's Collection.

814. *LYMANTRIA NARINDRA, Moore.*

Lymantria Narindra, n. sp.—Female, *fore-wing* white, with two spots at the base, a discal band extending broadly from the posterior margin, and tapering to the costa one-third from the apex, and which has two branches upward and inward to the costa,—the first to near its base, the second to its middle; a small dot within the cell, a lunated costal spot near the apex, spots along exterior margin, and a larger central submarginal spot, and three spots upward from posterior margin near the angle, brown: *hind-wing* pale brown, somewhat white about the base, and with marginal white spots; antennæ, palpi, front, and three spots on the thorax, abdomen beneath, and legs,

blackish-brown; thorax, and two spots on anterior tibia, white; abdomen above, brown anteriorly, reddish posteriorly, the segments fringed with white above, and with red laterally and beneath. Expanse $3\frac{3}{4}$ in.

a. ♀. Java. From Dr. Horsfield's Collection.

815. *LYMANTRIA MUNDA, Walker.*

Lymantria munda, *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 875 (1855).

a. ♀. Java. From Dr. Horsfield's Collection.

b. c. ♂. Cherra Poonjee. Presented by Col. Buckley.

d. ♂. Darjeeling. From Messrs. Schlagintweit's Collection.

816. *LYMANTRIA SUPERANS, Walker.*

Lymantria superans, *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 876 (1855).

a. ♂. N. India. Presented by Col. Buckley.

817. *LYMANTRIA BEATRIX, Stoll Sp.*

♀ Phalæna-Bombyx Beatrix, *Stoll, Suppl. Cramer's Pap. Exot. p.* 173, *pl.* 40, *f.* 2 (1791).

Lymantria Beatrix, *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 877.

Porthetria Beatrix, *Hübner, Verz. bek. Schmett. p.* 160.

♀ Lymantria marginata, *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 877 (1855).

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

The larva and pupa of *Lym. Beatrix* are figured on Plate XV., figs. 5, 5*a*, from Java. "Feeds on the *Jambu-bessi* (*Psidium pyriferum*). March."—(Horsfield, MS.)

818. *LYMANTRIA OBSOLETA, Walker.*

♂ Lymantria obsoleta, *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 880 (1855).

a. ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

819. *LYMANTRIA ASÆTRIA, Hübner.*

Lymantria Asætria, *Hübner, Samml. Exot. Schmett.* II. *f.* 1–4 (1806–27). *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 878 (1855).

a. b. c. d. e. ♂. Java. From Dr. Horsfield's Collection.

820. *LYMANTRIA PRAMESTA, Moore* (*Pl.* IX*a*, *fig.* 3, ♀).

Dasychira antica, *Walker, List Lep. Het. Brit. Mus. pt.* VII. *p.* 1739 (1856).

a. b. c. d. and pupa, ♀. Java. From Dr. Horsfield's Collection.

The larva and pupa of *Lym. Pramesta* are figured on Plate XV., figs. 6, 6*a*, from Java. "Feeds on the *Assem* (*Tamarindus indicus*). December. Very abundant on the leaves of the *Tamarind.*" — (Horsfield, MS.)

Remark.—Lym. Pramesta may ultimately prove to be the female of *Lym. Asætria*, Hübner.

821. *LYMANTRIA GANARA, Moore.*

Lymantria Ganara, n. sp. — Male, cream-white or fawn-colour: *fore-wing* with four indistinct zigzag transverse brown lines,—the first one-third from the base, the fourth parallel with the exterior margin, the second and third medial; two black dots at the base, and dots along the costa and the exterior margin: *hind-wing* with an indistinct submarginal brown band; body fawn-colour, with row of indistinct dorsal dots; palpi black towards the base; legs fawn-colour, spotted with black above. Some specimens with all the markings very indistinct. Expanse $1\frac{5}{8}$ in.

a. b. c. d. ♂. Java. From Dr. Horsfield's Collection.

Remark.—This species differs from *Lym. Asætria* in having the hind-wings more quadrate, by its pale body, and by the thorax being without black dots.

822. *LYMANTRIA ARYAMA, Moore.*

Lymantria Aryama, n. sp.— Male, *fore-wing* pale sienna-brown, with a transverse streak one-third from the base, and a recurved double zigzag line one-third from the apex, the space along the exterior margin of the wing and broadly across the disc, a discal dot, two series of basal dots and a series of cilial dots, blackish; *hind-wing* pale brown, with the base and two narrow marginal bands somewhat darker brown, cilial dots blackish; antennæ, head, and thorax dark brown; base of abdomen and anal tuft pale brown; end of abdomen red, with black bands; thorax with three black dots anteriorly; legs brown, femur with a black spot; extremity of tarsi red. Expanse 2 in.

a. b. c. ♂. Canara. Presented by S. N. Ward, Esq.

Remark.—This species is allied to *Lym. dispar*, Linn.

823. *LYMANTRIA BHASCARA, Moore.*

Lymantria lunata, var. β, *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 879.

Lymantria Bhascara, n. sp.—Female, *fore-wing* pale fawn-colour, thickly irrorated with brown, with several transverse zigzag lines; *hind-wing* rosy, with broad brown marginal band; palpi and antennæ blackish; thorax brown; abdomen above rosy, with blackish bands, brown beneath; legs brown, with blackish tarsi. Expanse nearly 2½ in.

a. b. c. ♀. N. India. Presented by General Hearsey.

d. ♀. Darjeeling. From Messrs. Schlagintweit's Collection.

Remark. — This species may probably be the female of *Lym. Aryama.*

824. *LYMANTRIA DISPAR, Linnæus Sp.*

Phalæna-Bombyx dispar, *Linnæus, Syst. Nat.* II. *p.* 821.

Lymantria dispar, *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 872.

Bombyx dispar, *Fabricius, Ent. Syst.* III. I. *p.* 437.

Porthetria dispar, *Hübner, Verz. bek. Schmett. p.* 160.

Liparis dispar, *Ochsenheimer, Schmett. von Eur.* III. *p.* 195.

Hypogymna dispar, *Stephens, Ill. Brit. Ent. Haust.* II. *p.* 56.

a. ♂. N. India. Presented by General Hearsey.
b. ♂. Dukhun. Presented by Col. Sykes.
c. *d*. India.

Remark.—These specimens of *L. dispar* are identical with those taken in England.

Genus ENOME, *Walker*.

ENOME, *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 883 (1855).

825. *ENOME AMPLA, Walker Sp.* (*Plate* IX*a*, *fig.* 4, ♂).

Enome ampla, *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 833 (1855).

a. *b*. *c*. ♂. N. India. Presented by Col. Buckley.

The larvæ and pupæ of both sexes of *Enome ampla* are figured on Plate XV., figs. 7, 7*a*; 8, 8*a*, copied from the original drawing of R. W. G. Frith, Esq., in the collection of A. Grote, Esq. of Calcutta. The female is represented in Mr. Frith's drawing as being apterous, like that of *Orgyia*. The transformations of both sexes are figured in the above drawing. The larva "feeds on *Ricinus*." — (Grote, MS. Note.)

The transformations were also observed and figured by Lady Isabella Rose Gilbert, the larva being "found on August 1st feeding on *Sakooa*. During the day it remained in a hollow bamboo, coming out at night only for food. On the 16th it wove a transparent web, the moth coming out on the 24th. The female is apterous."

Also figured among E. L. Layard's drawings, from Ceylon. "Female wingless."

Genus SOMERA, *Walker*.

SOMERA, *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 882 (1855).

826. *SOMERA BARUNA, Moore*.

Somera Baruna, *n. sp.*—Female, *fore-wing* dull green, brownish along the costa, with several undulating transverse indistinct lines, and patch near base of costa, brown; *hind-wing* pale brown; antennæ, head, thorax, and fore-legs, dull green; hind-legs and abdomen pale brown. Expanse 2 in.

a. *b*. ♀. Java. From Dr. Horsfield's Collection.

Genus LACIDA, *Walker.*

LACIDA, *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 801 (1855).

827. *LACIDA POSTICA, Walker.*

Lacida postica, *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 803 (1855).

a. b. c. d. e. f. ♂. Java. From Dr. Horsfield's Collection.

Genus EUPROCTIS, *Hübner.*

EUPROCTIS *Hübner, Verz. bek. Schmett.* (1816).
PORTHESIA, *Stephens, Ill. Brit. Ins. Haust.* I. *p.* 65 (1828).

828. *EUPROCTIS ATOMARIA, Walker.*

Euproctis atomaria, *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 837 (1855).

a. b. c. d. e. f. g. ♂ ♀. Java. From Dr. Horsfield's Collection.

The larva and pupa of *Eup. atomaria* are figured on Plate XVI., figs. 1, 1*a*, from Java. "Feeds on *Dioscorea oppositifolia, Annona squamosa,* and *Tamarindus indicus.* November. Common." — (Horsfield, MS.)

Cocoon enveloped in a leaf.

829. *EUPROCTIS DERSA, Moore.*

Euproctis Dersa, n. sp.—Male and female, *fore-wing* yellow, whitish along the veins; the base of the costa ferruginous; an ochreous-yellow discal spot, which is indistinct in the female: *hind-wing* testaceous-white; antennæ, head, sides of thorax, abdomen, and legs, yellow; palpi, inside of fore-legs, front and middle of thorax (in the male only), ferruginous; abdominal tuft, ferruginous-yellow. Expanse of male 1½ in., of female 2 in.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

830. *EUPROCTIS IRRORATA, Moore.*

Euproctis irrorata, n. sp.—White, *fore-wing* with numerous black dots; antennæ, palpi, head, and thorax, pale yellow; base of abdomen white, extremity brown, the tuft deep yellow; legs white. Expanse 1 $\frac{4}{12}$ in.

a. ♀. Java. From Dr. Horsfield's Collection.

831. *EUPROCTIS GAMMA, Walker.*

Euproctis gamma, *Walker, List Lep. Het. Brit. Mus. pt.* VII. *p.* 1731 (1856).

a. b. c. ♂. N. India. Presented by Col. Buckley.

d. ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

832. *EUPROCTIS VARIA, Walker* (*Plate* IX*a*, *fig.* 5, ♂).

Euproctis varia, *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 840 (1855).

a. ♂. N. India. Presented by Col. Buckley.

Euproctis varia.—Male, yellow; *fore-wing* with a broad ferruginous-brown streak tapering from middle of posterior margin, upward and outward, to near the apex; a brown dot at the base, and a black spot within the discoidal cell: *hind-wing* pale yellow; antennæ, palpi, head, legs, and abdominal tuft, yellow; thorax reddish-yellow; abdomen above brownish. Expanse $1\frac{5}{8}$ in.

833. *EUPROCTIS MADANA, Moore.*

Euproctis Madana, n. sp.—Yellow, *fore-wing* with the base suffused with brown; a brown band from middle of posterior margin extending outward and upward to the costa before the apex, and having a branch to exterior margin below the apex; a black dot within the cell: *hind-wing* pale yellow; antennæ, head, body, and legs, yellow. Expanse $2\frac{1}{4}$ in.

a. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

834. *EUPROCTIS LUNATA, Walker.*

Euproctis lunata, *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 837 (1855); id. *pt.* VII. *p.* 1731.

a. b. c. d. e. ♂ ♀. Dukhun. Presented by Col. Sykes.

The larva of *Euproctis lunata* is figured on Plate XVI., fig. 2, copied from the original drawings in the collection of A. Grote, Esq. "Feeds on *Combretum Wightianum*."—(Grote, MS.)

The transformations also figured among Capt. Mortimer Slater's drawings. "Feeds on *Tamarix indica*. Dinapore. September 29, 1849."—(Slater's Notes.)

835. *EUPROCTIS BIGUTTA, Walker.*

Euproctis bigutta, *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 837 (1855).

a. ♂. Java. From Dr. Horsfield's Collection.

b. ♀. Canara. Presented by S. N. Ward, Esq.

836. *EUPROCTIS VIRGUNCULA, Walker.*

Euproctis virguncula, *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 836 (1855).

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. f. ♂ ♀. N. India. Presented by General Hearsey.

g. h. ♂ ♀. Dukhun. Presented by Col. Sykes.

i. Chusan. Presented by Dr. Cantor.

The larva and cocoon of *Eup. virguncula* are figured on Plate XVI., figs. 3, 3*a*, from Java. "Feeds on the *Balontas* (*Conyza balsamifera*); the *Dadap* (*Erythrina sp.*——); and the *Uwi* (*Dioscorea oppositifolia*). November to March. Very abundant."—(Horsfield, MS.)

837. *EUPROCTIS LODRA, Moore* (*Plate* IX*a*, *fig.* 6).

Euproctis Lodra, n. sp.—Female, *fore-wing* brown, palest at the base, yellowish along the costa; *hind-wing* brown, with a broad yellowish marginal band; antennæ, head, legs, and abdominal tuft, yellow; thorax and abdomen brown. Expanse $1\frac{5}{8}$ in.

a. ♀. Java. From Dr. Horsfield's Collection.

Genus PERINA,* *Walker.*

Perina, *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 966 (1855).

838. *PERINA BASALIS, Walker.*

♂ Perina basalis, *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 966 (1855).

♀ Euproctis antica, var. δ, *Walker*, id. *p.* 835.

♀ Euproctis subatomaria, *Walker, MS. Brit. Mus.*

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* Founded on the male insect only, and placed by Mr. Walker in his family *Psychidæ*.

a. b. c. d. e. ♂ ♀. N. India. Presented by Colonel Buckley.

The larva of *Perina basalis* is figured on Plate XVI., fig. 4, copied from the late R. W. G. Frith's drawing, now in the possession of A. Grote, Esq.

Remark. — Both sexes of this curious genus were reared by Mr. Frith, and verified by Mr. Grote. "Larva feeds on *Ficus religiosa*. A specimen of the female emerged from the pupa this morning, October 8th, and two males immediately flew in to her."—(Grote's MS.)

Mr. Walker, in the Catal. of Lep. Het. in Brit. Mus. p. 835, has placed some specimens of the female of this insect as a variety of the female of his *Euproctis antica*, but which I have found, from the examination of the neuration of the wings, to be quite distinct.—F. M.

Genus ARTAXA, *Walker*.

ARTAXA, *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 794 (1855).

839. *ARTAXA DIGRAMMA, Boisduval Sp.*

Bombyx digramma, *Boisduval, Iconogr. du Règne Anim. Ins. p.* 508, *pl.* 86, *f.* 4 (1829–38).

Artaxa guttata, *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 795 (1855).

a. b. ♂ ♀. Java. From Dr. Horsfield's Collection.

c. ♀. Penang. Presented by Dr. Cantor.

d. e. ♂. N. India. Presented by General Hearsey.

f. ♂. Canara. Presented by S. N. Ward, Esq.

The larva and cocoon of *Artaxa digramma* are figured on Plate XVI., figs. 5, 5*a*, copied from R. W. G. Frith's original drawing.

"Feeds on the castor-oil plant (*Ricinus*)." — (John Reeves, MS. Note.)

840. *ARTAXA ZEBOE, Moore* (*Plate* IX*a*, *fig.* 7 ♂).

Artaxa Zeboe, n. sp.—Male, *fore-wing* yellow, whitish along the veins, with a brown discal dot and an oblique short series of dots below it; *hind-wing* yellowish-white; antennæ pale brown; palpi black above; lower part of abdomen above pale brown; tuft yellow. Expanse 1⅜ in.

a. ♂. Java. From Dr. Horsfield's Collection.

841. *ARTAXA SASTRA, Moore.*

Artaxa Sastra, n. sp.—Female, yellow; *fore-wing* with one apical black dot; abdomen brownish, tuft yellow. Expanse 1¼ in.

a. ♀. Java. From Dr. Horsfield's Collection.

842. *ARTAXA KALA, Moore.*

Artaxa Kala, n. sp.—Female, white; *fore-wing* with two apical black spots, the upper one the smallest. Expanse 1¼ in.

a. ♀. Java. From Dr. Horsfield's Collection.

843. *ARTAXA VARIANS, Walker.*

Artaxa varians, *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 796 (1855).

a. China. Presented by Dr. Cantor.

844. *ARTAXA LINTA, Moore.*

Artaxa Linta, n. sp.—Yellow, *fore* and *hind-wings* clouded with brownish-testaceous in the middle. Expanse 1 in.

a. Java. From Dr. Horsfield's Collection.

845. *ARTAXA OBSCURA, Moore.*

Artaxa obscura, n. sp.—Brown; *fore-wing* pale testaceous at the base and apex; antennæ, head, and thorax, pale testaceous; abdomen brown. Expanse ⅝ in.

a. Java. From Dr. Horsfield's Collection.

846. *ARTAXA SUBRANA, Moore.*

Artaxa Subrana, n. sp.—Pale brown; *fore-wing* palest about the costa, with two transverse white zigzag lines,—one a little before the middle, the other submarginal, both curving inwards; two white spots near the apex, and two at the posterior angle: *hind-wing* brown, with broad pale yellow border; antennæ, head, and legs, yellowish; thorax and abdomen brown, tuft yellow. Expanse 1⅜ in.

a. ♀. Java. From Dr. Horsfield's Collection.

847. *ARTAXA SIMILIS, Moore.*

Artaxa similis, n. sp. — Ferruginous-brown; *fore-wing* with three marginal yellow spots, one at each angle, the other medial,—that at the apex being very small; *hind-wing* with a yellow margin; an-

tennæ, head, body, and legs, ferruginous-brown; abdominal tuft pale ferruginous. Expanse 1⅜ in.

a. ♂ ♀. Java. From Dr. Horsfield's Collection.

848. *ARTAXA ATOMARIA, Walker.*

Artaxa atomaria, *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 796 (1855).

a. ♀. Chusan. Presented by Dr. Cantor.

849. *ARTAXA JUSTICIÆ, Moore.*

Artaxa Justiciæ, n. sp.—*Fore-wing* brown, minutely irrorated with black scales, pale yellowish along the costal margin, three yellow spots on exterior margin; *hind-wing* testaceous-yellow; body testaceous-brown. Expanse 1 in.

Allied to *A. similis* and *A. atomaria.*

a. ♀. Bengal. Mr. Grote's Drawing.

The larva and cocoon of *A. Justiciæ* are figured on Plate XVI., figs. 6, 6*a*, copied from Mr. Grote's original drawing. Cocoon attached to a leaf. "The larva feeds on *Æschynomene Sesban, Duranta, Zizyphus,* and *Justicia.*"—(Grote, MS. Note.)

850. *ARTAXA TRANSVERSA, Moore* (*Plate* IX*a*, *fig.* 8).

Artaxa transversa, n. sp.—Dull testaceous; *fore-wing* irrorated with minute black scales, with two transverse black maculated lines; *hind-wing* brown, the ciliæ dull testaceous; antennæ, head, and thorax, dull testaceous; abdomen pale brown, anal tuft dull testaceous. Expanse 1⅜ in. to 1⅝ in.

a. *b*. *c*. Java. From Dr. Horsfield's Collection.

Genus ICHTHYURA, *Hübner.*

Ichthyura, *Hübner, Verz. bek. Schmett. p.* 162 (1816). *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1054.

Clostera, *Hoffmansegg, MS. Stephens, Ill. Brit. Ins. Haust.* II. *p.* 12 (1828).

Laria, *pt. Schrank.*

Pygæra, *pt. Ochsenheimer.*

851. *ICHTHYURA JAVANA, Moore.*

Ichthyura Javana, n. sp.—Brown. Male, *fore-wing* with three narrow transverse whitish lines,—the first near the base, the second from the

costal end of the first obliquely to the posterior margin near the end of the third, the latter being zigzag, and one-third from the apex, and having on its exterior margin anteriorly some whitish dots, a basal dot and dot outside the third transverse line, a spot at the end of the cell, and the outer margin of the oblique line posteriorly, blackish; tip deep brown: *hind-wings* brownish-white. Female with an additional short whitish line posteriorly between the second and third lines; the exterior margin of the third line anteriorly is ferruginous. Expanse of male $\frac{7}{8}$ in., of the female $1\frac{1}{8}$ in.

a. b. c. ♂ ♀. Java. From Dr. Horsfield's Collection.

The larva and pupa of *Ich. Javana* are figured on Plate XVI., figs. 7, 7*a*, from Java. "Feeds on a species of *Salix*. May."—(Horsfield, MS.)

Genus SELEPA, *Moore*.

Antennæ filiform.
Palpi projecting beyond the head, slender, scaly beneath, pilose above.
Proboscis short.
Thorax broad. *Abdomen* stout.
Legs covered with minute scales.
Fore-wings elongate; *hind-wings* somewhat trigonate.

852. *SELEPA CELTIS, Moore* (*Plate* IX*a*, *fig.* 9).

Selepa Celtis, n. sp.—*Fore-wing* greyish-brown, with a large discal double circular dark-brown line, with a suffused dark-brown centre, an ill-defined submarginal brown line, and two suffused brown lines at the posterior angle; ciliæ grey: *hind-wing* greyish-white, with the margin suffused with pale brown; ciliæ white; thorax and abdomen greyish-brown.

a. b. c. Java. From Dr. Horsfield's Collection.
d. e. N. India. Presented by General Hearsey.

The larva and cocoon of *Selepa Celtis* are figured on Plate XVI., figs. 8, 8*a*, copied from the original drawing in the collection of A. Grote, Esq. "Feeds on *Lagerstrœmia* and *Celtis*."—(Grote, MS. Note.)

The transformations also observed in Java by Dr. Horsfield, where it "feeds on the *Assem* (*Tamarindus indicus*). May."—(Horsfield, MS.)

Stirps III.—LARVÆ URSINÆ.

The peculiar mark of this stirps is the great and nearly uniform length of the silken hairs, arising from a common base along the entire surface of the segments, which gives them a shaggy appearance; whence the name *Ursinæ* is derived. Metamorphosis: — Cocoon of a somewhat dense silken and hairy texture. The perfect insect has narrow or large broad wings; flies by day or in the evening; antennæ bipectinated in the male, minutely so or biserrated in the female, or filiform in both sexes; proboscis short, or obsolete; abdomen of male slender, of female stout.

This stirps comprises the most beautiful moths of the whole tribe, which are denominated in the Wien. Verz. as "*Papiliones nobiles.*"

PHALÆNA, *sect.* BOMBYCES, *pt. Linnæus, S. N.* I. II. (1767).

BOMBYCES (*Larvæ* F. E. CELERIPEDES *et* URSINÆ), *Denis et Schiffermüller, Wien. Verz. pp.* 52, 54 (1776).

BOMBYX, *pt. Haworth, Lep. Brit. pp.* 76, 78 (1803).

NOCTUO-BOMBYCITES, *pt. Latreille, Gén. Crust. et Ins.* IV. *pp.* 190, 219 (1809).

BOMBYCIDÆ (*Stirps* I. FASCICULATÆ *pt.*), *Horsfield, Catal. Lep. Mus. E.I.C. pp.* 24, 27 (1828).

ARCTIIDÆ, *pt. Leach, Edinb. Encycl. p.* (1815). *Stephens, Ill. Brit. Ins. Haust.* II. *p.* 54 (1829); id. *Catal. Brit. Lep. Brit. Mus. p.* 49 (1850). *Westwood, Intr.* II. *p.* 384 (1840).

BOMBYCIDA, *Duncan, in Brewster's Edinb. Encycl.* IX. *p.* 132 (1830).

ARCTIÆ, *pt. et* LARIÆ, *pt. Newman, Sph. Vesp. p.* 44 (1832).

ARCTIADÆ, *Swainson, Cabinet Cyclop. p.* 106 (1840).

CHELONIDES, *Boisduval, Ind. Méth. p.* 61 (1840).

ARCTIITES, *pt. Newman, Entom. Mag.* II. *p.* 383 (1834); id. *Hist. of Ins. 2nd edit. p.* 212 (1841). *Blanchard, Hist. Nat. des Ins.* II. *p.* 362 (1845).

CHELONIDI, *Stephens, Catal. Brit. Lep. Brit. Mus. p.* 52 (1850).

ARCTIIDÆ, LIPARIDÆ, *pt. et* DREPANULIDÆ, *pt. Walker, List Lep. Het. Brit. Mus.* (1855).

CHELONIDÆ, *pt. Stainton, Manual Brit. Lep. pp.* 107, 142 (1856).

LIPARIDINA, *pt. et* ARCTIOIDEA, *Herr. Schäffer, Lep. Exot. Spec. Nov. pp.* 69, 71 (1858).

Genus SPILOSOMA, *Stephens.*

SPILOSOMA, *Stephens, Ill. Brit. Ins. Haust.* II. *p.* 74 (1829). *Walker, List Lep. Het. Brit. Mus. pt.* III. *p.* 663.
PHALÆNA-BOMBYX, *pt. Linnæus.*
ARCTIA, *pt. Schrank.*
BOMBYX, *pt. Fabricius.*
ESTIGMENE, *pt. Hübner.*

853. *SPILOSOMA MACULIFASCIA, Walker* (*Plate* IX*a*, *fig.* 10, ♀).

♀ Spilosoma maculifascia, *Walker, List Lep. Het. Brit. Mus. pt.* III. *p.* 676 (1855).

♂ Spilosoma conspurcatum, *Walker*, id. *pt.* VII. *p.* 1698 (1856).

a. b. c. d. e. f. ♂ ♀. Java. From Dr. Horsfield's Collection.

The larva and cocoon of *Spil. maculifascia* are figured on Plate XVI., figs. 9, 9*a*, from Java. "Feeds on the *Dadap* (*Convolvulus sp.*——), *Dioscorea oppositifolia*, and a species of *Erythrina*. December and January. Common."—(Horsfield, MS.)

854. *SPILOSOMA PUNCTATA, Moore.*

Spilosoma punctata, n. sp. — Pale testaceous; *fore-wing* with a black basal, two costal, and a minute discal dot; from middle of posterior margin extend a series of dots obliquely upward, also two dots near the base of the margin, some indistinct dots near the apex: *hind-wing* with a black discal dot, and dots from near the anal angle; abdomen deep yellow, with a series of dorsal and lateral black dots, also two series of smaller dots beneath. Female without the costal dots, the apical dots on the *fore-wing* and those on the *hind-wing* more distinct. In some specimens the dots are less distinct. Antennæ black, but white at the base and tip; palpi black above; legs mostly black. Expanse of male $1\frac{1}{4}$ in., of female $1\frac{5}{8}$ in.

a. b. c. ♂ ♀. Java. From Dr. Horsfield's Collection.

d. ♂. N. India. Presented by General Hearsey.

e. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

Remark.—This species is closely allied to *Spil. obliqua*, Walker, List Lep. Het. Brit. Mus. pt. III. p. 679, from Australia.

855. *SPILOSOMA SUFFUSA, Walker.*

Spilosoma suffusa, *Walker, List Lep. Het. Brit. Mus. pt.* III. *p.* 677 (1855).

a. b. c. ♂ ♀. Punjab. Presented by General Hearsey.
d. ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

The larva and pupa of *Spil. suffusa* are figured on Plate XVI., figs. 10, 10*a*, copied from Capt. Mortimer Slater's original drawings.

856. *SPILOSOMA GOPARA, Moore* (*Plate* IX*a, fig.* 11).

Spilosoma Gopara, n. sp.—Female, dull testaceous; *fore-wing* with a black dot at the base, another on the costa about one-fourth from the base, a smaller dot above the extremity of the cell, with two below it within the cell; two geminated dots near exterior margin towards the apex, a dot near base of posterior margin, and an oblique row of dots upward from the middle of the latter margin: *hind-wing* testaceous-yellow, with a large basal black patch, four rather large spots from anal angle, and a dot near apical angle. Expanse 2⅛ in.

a. ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

857. *SPILOSOMA ABDOMINALIS, Moore.*

Spilosoma abdominalis, n. sp.—Female, pale testaceous; *fore-wing* with a black dot on the costa one-fourth from the base, and a curved black streak on the middle of posterior margin; *hind-wing* testaceous-white, with a black dot near middle of the anterior margin; antennæ and palpi black; abdomen above red, with a dorsal and lateral row of black spots; head, thorax, and body beneath pale testaceous, the latter with a side-row of black spots parallel with those above; legs with the femur above red and tipped with black, testaceous beneath; tibia and tarsus blackish. Expanse 2¼ in.

a. ♀. N. India. Presented by Col. Buckley.

Genus CYCNIA, *Hübner.*

CYCNIA, *Hübner, Verz. bek. Schmett. p.* 184 (1816). *Walker, List Lep. Het. Brit. Mus. pt.* III. *p.* 680.

DIAPHORA, *Stephens, Ill. Brit. Ins. Haust.* II. *p.* 77 (1829).

PHALÆNA-BOMBYX, *pt. Linnæus.*

BOMBYX, *pt. Fabricius.*

EUPREPIA, *pt. Ochsenheimer.*

ARCTIA, *pt. Schrank.*

CHELONIA, *pt. Godart.*

858. *CYCNIA PUNCTIVAGA, Walker.*

♀ Cycnia punctivaga, *Walker, List Lep. Het. Brit. Mus. pt.* III. *p.* 682 (1855).

a. b. c. d. e. f. ♂ ♀. Java. From Dr. Horsfield's Collection.

Genus ARCTIA, *Schrank.*

ARCTIA, *Schrank, Faun. Boica,* II. *pt.* II. *p.* 152 (1802). *Walker, List Lep. Het. Brit. Mus. pt.* III. *p.* 594.

EUPREPIA, *pt. Ochsenheimer.*

CHELONIA, *pt. Latreille.*

859. *ARCTIA IMBUTA, Walker.*

Arctia imbuta, *Walker, List Lep. Het. Brit. Mus. pt.* III. *p.* 614 (1855).

a. ♂. Darjeeling. From Messrs. Schlagintweit's Collection.

860. *ARCTIA DIVISA, Walker.*

Arctia divisa, *Walker, List Lep. Het. Brit. Mus. pt.* III. *p.* 614 (1855).

a. ♀. N. India. Presented by Col. Buckley.

861. *ARCTIA STRIGATULA, Walker* (*Plate* IX*a, fig.* 12, ♂; 12*a*, ♀).

♂ ♀ Arctia strigatula, *Walker, List Lep. Het. Brit. Mus. pt.* III. *p.* 613 (1855).

var. ♀ Spilosoma rubescens, *Walker,* id. *p.* 677 (1855).

a. b. c. d. e. f. g. ♂ ♀. Java. From Dr. Horsfield's Collection.

The larva and cocoon of *Arctia strigatula* are figured on Plate XVI., figs. 11, 11*a*, from Java. "Feeds on *Dioscorea oppositifolia* and other plants. Very abundant."—(Horsfield, MS.)

862. *ARCTIA LANDACA, Moore.*

Arctia Landaca, n. sp.—Male and female, testaceous-brown; *fore-wing* with two indistinct darker zigzag slightly-curved lines across the disc,—the first one-third from the base, the second one-third from the apex; also some minute black discal dots and a submarginal series of indistinct dark spots: *hind-wing* with indistinct discal dot and narrow submarginal line; palpi, tibia, and tarsus, blackish; abdomen reddish, with a blackish dorsal and lateral line. Expanse of male 1⅜ in., of female 1⅝ in.

a. b. ♂ ♀. Java. From Dr. Horsfield's Collection.

Genus ALOPE, *Walker.*

ALOPE, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 620 (1854).

863. *ALOPE OCELLIFERA, Walker.*

Alope ocellifera, *Walker, List Lep. Het. Brit. Mus. pt.* II. *p.* 620 (1854).

a. ♂. Madras. From Capt. Jones's Collection.

b. ♂. N. India. Presented by Gen. Hearsey.

c. d. e. f. ♀. N. India. Presented by Col. Buckley.

g. h. i. j. var. ♀. Canara. Presented by S. N. Ward, Esq.

Genus PHRAGMATOBIA, *Stephens.*

PHRAGMATOBIA, *Stephens, Ill. Brit. Ins. Haust.* II. *p.* 73 (1829). *Walker, List Lep. Het. Brit. Mus. pt.* III. *p.* 628.

PHALÆNA-BOMBYX, *pt. Linnæus.*

864. *PHRAGMATOBIA BUANA, Moore.*

Phragmatobia Buana, n. sp.—*Fore-wing* ferruginous-brown; *hind-wing* fuliginous, with paler ciliæ; antennæ brown; head, thorax, and anal tuft, pale ferruginous; abdomen above brown, beneath and legs very pale ferruginous; tarsi yellowish. Expanse 1 in.

a. ♂. Java. From Dr. Horsfield's Collection.

Genus ALPHÆA, *Walker*.

ALPHÆA, *Walker, List Lep. Het. Brit. Mus. pt.* III. *p.* 683 (1855).

865. *ALPHÆA FULVOHIRTA, Walker.*

Alphæa fulvohirta, *Walker, List Lep. Het. Brit. Mus. pt.* III. *p.* 684 (1855).

a. b. c. d. Darjeeling. From Messrs. Schlagintweit's Collection.

Genus HYPERCOMPA, *Stephens*.

HYPERCOMPA, *Stephens, Ill. Brit. Ins. Haust.* II. *p.* 67 (1829). *Walker, List Lep. Het. Brit. Mus. pt.* III. *p.* 647.

PHALÆNA-NOCTUA, *pt. Linnæus.*

ARCTIA, *pt. Schrank.*

CALLIMORPHA, *pt. Latreille.*

EUPREPIA, *pt. Ochsenheimer.*

EUPLAGIA *et* HERACLIA, *pt. Hübner.*

HERACLIA, *Westwood.*

866. *HYPERCOMPA MULTIGUTTATA, Walker.*

Hypercompa multiguttata, *Walker, List Lep. Het. Brit. Mus. pt.* III. *p.* 657 (1855).

a. b. c. d. ♂ ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

867. *HYPERCOMPA IMPERIALIS, Walker.*

Hypercompa imperialis, *Walker, List Lep. Het. Brit. Mus. pt.* III. *p.* 655 (1855).

a. b. c. N. India. Presented by Col. Buckley.

d. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

868. *HYPERCOMPA PLAGIATA, Walker.*

Hypercompa plagiata, *Walker, List Lep. Het. Brit. Mus. pt.* III. *p.* 655 (1855).

a. ♀. Darjeeling. From Messrs. Schlagintweit's Collection.

869. *HYPERCOMPA PRINCIPALIS, Kollar Sp.*

Euprepia principalis, *Kollar, in Hügel's Kaschmir*, IV. *pt.* II. *p.* 465, *pl.* 20, *f.* 2 (1844).

Hypercompa principalis, *Walker, List Lep. Het. Brit. Mus. pt.* III. *p.* 653.

a. b. c. N. India. Presented by Col. Buckley.

870. *HYPERCOMPA EQUITALIS, Kollar Sp.*

Euprepia equitalis, *Kollar, in Hügel's Kaschmir*, IV. *pt.* II. *p.* 465, *pl.* 20, *f.* 3 (1844).

Hypercompa equitalis, *Walker, List Lep. Het. Brit. Mus. pt.* III. *p.* 654.

a. Nepal. Presented by the Trustees of the British Museum.

b. c. d. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

871. *HYPERCOMPA LONGIPENNIS, Walker.*

Hypercompa longipennis, *Walker, List Lep. Het. Brit. Mus. pt.* III. *p.* 655 (1855).

a. b. N. India. Presented by Col. Buckley.

Genus AREAS, *Walker.*

Areas, *Walker, List Lep. Het. Brit. Mus. pt.* III. *p.* 658 (1855).

872. *AREAS ORIENTALIS, Walker.*

Areas orientalis, *Walker, List Lep. Het. Brit. Mus. pt.* III. *p.* 658 (1855).

a. b. ♂ ♀. Java. From Dr. Horsfield's Collection.

c. ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

Genus ALOA, *Walker.*

Aloa, *Walker, List Lep. Het. Brit. Mus. pt.* III. *p.* 699 (1855).

873. *ALOA TRIPARTITA, Walker.*

Aloa tripartita, *Walker, List Lep. Het. Brit. Mus. pt.* III. *p.* 706 (1855).

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

874. *ALOA BIGUTTATA, Walker.*

Aloa biguttata, *Walker, List Lep. Het. Brit. Mus. pt.* III. *p.* 707 (1855).

a. b. ♀. Canara. Presented by S. N. Ward, Esq.

875. *ALOA KHANDALLA, Moore* (*Plate* IX*a, fig.* 13).

Aloa Khandalla, n. sp.—Fore-wing black, with a reddish-white stripe from the base curving upward to and terminating on the costal margin before the apex, this stripe having an elbow-spot about the middle of its lower margin, also two reddish-white spots on exterior margin; *hind-wing* reddish-white, with black marginal spots; head, and sides of thorax, reddish-white; abdomen above, red; antennæ, middle of thorax, dot on each shoulder, stripes on abdomen above, and abdomen beneath, black. Expanse of male $1\frac{3}{8}$ in., female $1\frac{5}{8}$ in.

a. ♂. Canara. Presented by S. N. Ward, Esq.

b. c. ♀. Khandalla Hill, Bombay. Presented by Ezra T. Downes, Esq.

876. *ALOA LACTINEA, Cramer Sp.*

Phalæna-Bombyx Lactinea, *Cramer, Pap. Exot.* II. *p.* 58, *pl.* 133, *f. D.* (1779).

Aloa Lactinea, *Walker, List Lep. Het. Brit. Mus. pt.* III. *p.* 702.

Estigmene Lactinea, *Hübner, Verz. bek. Schmett. p.* 184.

Bombyx sanguinolenta, *Fabricius, Ent. Syst.* III. I. *p.* 473. *Donovan, Ins. of India, pl.* 53.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. ♀. Penang. Presented by Dr. Cantor.

f. g. ♂ ♀. N. India. Presented by General Hearsey.

h. ♂. Canara. Presented by S. N. Ward, Esq.

The larva, pupa, and cocoon of *Aloa Lactinea* are figured on Plate XVI., figs. 12, 12*a*, 12*b*, from Java.

Also figured among R. W. G. Frith's drawings, now in the possession of A. Grote, Esq. "Feeds on *Menispernum glabrum*." — (Grote, MS.)

The transformations of this species are also figured among the drawings of Lady Isabella Rose Gilbert.

877. *ALOA CANDIDULA, Walker.*

Aloa candidula, *Walker, List Lep. Het. Brit. Mus. pt.* III. *p.* 704 (1855).

a. b. c. Dukhun. Presented by Col. Sykes.

Genus PHISSAMA, *Moore.*

AMPHISSA,* *Walker, List Lep. Het. Brit. Mus. pt.* III. *p.* 684 (1855).

878. *PHISSAMA VACILLANS, Walker* (*Pl.* IX*a*, *fig.* 14, ♂).

♂ Amphissa vacillans, *Walker, List Lep. Het. Brit. Mus. pt.* III. *p.* 685 (1855); id. *pt.* VII. *p.* 1786.

♀ Aloa vacillans, *Walker, List Lep. Het. Brit. Mus. pt.* VII. *p.* 1702 (1856).

a. b. c. d. e. f. ♂ ♀, and pupa. Java. From Dr. Horsfield's Collection.

The larva and pupa of *Phissama vacillans* are figured on Plate XVI., figs. 13, 13*a*, from Java. "Feeds on the *Uwi* (*Dioscorea oppositifolia*) and the *Galing* (*Cissus sp.*——). February to April." — (Horsfield, MS.)

879. *PHISSAMA TRANSIENS, Walker Sp.*

Spilosoma transiens, *Walker, List Lep. Het. Brit. Mus. pt.* III. *p.* 675 (1855).

a. ♀. Penang. Presented by Dr. Cantor.

Genus CREATONOTUS, *Hübner.*

CREATONOTUS, *Hübner, Verz. bek. Schmett. p.* 169 (1816). *Walker, List Lep. Het. Brit. Mus. pt.* III. *p.* 637.

PHALÆNA-BOMBYX, *pt. Linnæus.*

BOMBYX, *pt. Fabricius.*

880. *CREATONOTUS INTERRUPTA, Linnæus Sp.*

Phalæna-Bombyx interrupta, *Linnæus, Syst. Nat.* I. II. *p.* 840 (1767). *Sulzer, Ins. pl.* 22, *f.* 3. *Cramer, Pap. Exot.* II. *p.* 136, *pl.* 185, *f. E.*

Creatonotus interrupta, *Hübner, Verz. bek. Schmett.*

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* Previously used in Lepidoptera.

p. 170. *Walker, List Lep. Het. Brit. Mus. pt.* III. *p.* 638.

Bombyx Francisca, *Fabricius, Mant. Ins.* II. *p.* 131; *Ent. Syst.* III. I. *p.* 480.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. Ceylon. From Jonville's Collection.

f. Penang. Presented by Dr. Cantor.

The larva and pupa of *Creat. interrupta* are figured on Plate XVII., figs. 1, 1*a*, copied from the original drawings made in Canara by S. N. Ward, Esq., of the Madras Civil Service.

Also figured among Capt. Mortimer Slater's drawings, who remarks, in his Notes, "The larva was taken August 6th, 1852, at Meeanmeer, and changed to a pupa on the 7th, the imago emerging on the 14th. The larva spun a very thin hairy cocoon."

881. *CREATONOTUS EMITTENS, Walker.*

Creatonotus emittens, *Walker, List Lep. Het. Brit. Mus. pt.* III. *p.* 638 (1855).

a. ♂. Canara. Presented by S. N. Ward, Esq.

Genus NISAGA, *Walker.*

Nisaga, *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 885 (1855).

882. *NISAGA SIMPLEX, Walker.*

Nisaga simplex, *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 885 (1855).

a. b. c. d. ♂. Canara. Presented by S. N. Ward, Esq.

Genus DREATA, *Walker.*

Dreata, *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 902 (1855).

883. *DREATA UNDATA, Blanchard Sp.*

Bombyx undatus, *Blanchard, in Jacquemont's Voy. dans l'Inde, Zool. Ins. p.* 23, *pl.* 1, *f.* 8 (1844).

Dreata undifera, *Walker, List Lep. Het. Brit. Mus. p.* IV. *p.* 904 (1855).

a. ♂. N. India. Presented by Colonel Buckley.
b. *c*. ♂ ♀. Madras. From Capt. J. M. Jones's Collection.
d. ♂. N. India. From Capt. Boys's Collection.

884. *DREATA MUTANS, Walker.*

Dreata mutans, *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 904 (1855).

a. *b*. *c*. ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

885. *DREATA UDIANA, Moore.*

Dreata Udiana, n. sp.—Male, testaceous-white, each *wing* with an oblique transverse pale double line; antennæ testaceous, with the pectinations pale brown. Female, testaceous-brown, with the oblique transverse double line well defined; antennæ dark brown. Expanse 4 in. to 5½ in.

a. *b*. ♂ ♀. Java. From Dr. Horsfield's Collection.

The larva and pupa of *Dreata Udiana* are figured on Plate XVII., figs. 2, 2*a*, from Java. "Feeds on the *Plosso* (*Butea sp.*——). December to February."—(Horsfield, MS.)

886. *DREATA TESTACEA, Walker.*

Dreata testacea, ♂, *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 906 (1855).

a. ♂. N. India. Presented by Col. Buckley.

887. *DREATA PETOLA, Moore* (*Plate* X*a*, *fig.* 2, ♀).

Dreata testacea, ♀, *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 906.

a. *b*. *c*. ♂ ♀. Java. From Dr. Horsfield's Collection.

The larva, pupa, and cocoon of *Dreata Petola* are figured on Plate XVII., figs. 3, 3*a*, from Java. "Feeds on the *Glaga* (*Gramen sp.*——). December to February. Not uncommon."—(Horsfield, MS.)

888. *DREATA IMBECILLIS, Walker.*

Dreata imbecillis, *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 905 (1855).

a. ♂. Penang. Presented by Dr. Cantor.

889. *DREATA UNDANS, Walker* (*Plate* X*a, fig.* 1, ♂).

Dreata undans, *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 905 (1855).

a. b. c. ♂. Madras. From Capt. J. M. Jones's Collection.

890. *DREATA CITRINA, Walker.*

Dreata citrina, *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 905 (1855).

a. ♀. Dukhun. Presented by Colonel Sykes.

891. *DREATA ANADA, Moore.*

Dreata Anada, n. sp.—Testaceous-yellow. Male, *fore-wing* with two transverse brownish lines obliquely across the disc; *hind-wing* also with two transverse lines, the inner line barely perceptible. Female, with the transverse lines darker. Expanse of male $2\frac{1}{8}$ in., of female $2\frac{5}{8}$ in.

a. ♂. Canara. Presented by S. N. Ward, Esq.

Remark.—Somewhat allied to *Dreata geminata*, Walker, List Lep. Het. Brit. Mus. Pt. IV. p. 907, from Ceylon.

Genus JANA, *Boisduval.*

JANA, *Boisduval, in Herr. Schäffer's Lep. Exot. Spec. Nov. ser.* I. *pl.* 21 (1854). *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 909.

892. *JANA LINEOSA, Walker.*

Jana lineosa, *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 912 (1855).

a. ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

Genus TAGORA, *Walker.*

TAGORA, *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1188 (1855).

893. *TAGORA GLAUCESCENS, Walker.*

♂ Tagora glaucescens, *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1188 (1855).

a. ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

894. *TAGORA PATULA, Walker.*

Tagora patula, *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1189 (1855).

a. ♂. N. India. Purchased.

895. *TAGORA AMÆNA, Walker* (*Plate* X*a, fig.* 3, ♂).

Tagora amæna, *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1189 (1855).

Bombyx Orpheus, *Boisduval, MS.*

a. b. c. d. e. f. g. ♂ ♀. Java. From Dr. Horsfield's Collection.

The larva and pupa of *Tagora amæna* are figured on Plate XVIII., figs. 1, 1*a*, from Java. "Feeds on the *Laban* (*Vitex sp.*——), the *Dadap* (*Erythrina sp.*——), *Piper Betel*, and *Dioscorea*. December to February and March. Abundant in March, 1817." — (Horsfield, MS.)

Genus APHA, *Walker.*

Apha, *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1180 (1855).

896. *APHA SUBDIVES, Walker* (*Plate* X*a, fig.* 4, ♀).

♂ Apha subdives, *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1180 (1855).

a. ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

Genus GANISA, *Walker.*

Ganisa, *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1190 (1855).

897. *GANISA POSTICA, Walker* (*Plate* X*a, fig.* 5).

Ganisa postica, *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1190 (1855).

a. ♂. Canara. Presented by S. N. Ward, Esq.

898. *GANISA PLANA, Walker.*

Ganisa plana, *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1191 (1855).

a. ♂. Drawing. In the Collection of A. Grote, Esq.

The larva and pupa of *Ganisa plana* are figured on Plate XVIII., figs. 2, 2*a*, copied from the original drawings in the collection of A. Grote, Esq., of Calcutta. "Feeds on *Jasminum*."—(Grote, MS.)

Genus NUMENES, *Walker*.

NUMENES, *Walker, List Lep. Het. Brit. Mus. pt.* III. *p.* 662 (1855).

899. *NUMENES INSIGNIS, Moore* (*Plate* X*a, fig.* 6).

Bombyx Silheti,* *Boisduval, MS.*

Numenes Siletti, *Walker, List Lep. Het. Brit. Mus. pt.* III. *p.* 663 (1855).

a. b. ♂ ♀. Java. From Dr. Horsfield's Collection.

c. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

900. *NUMENES PATRANA, Moore.*

Numenes Patrana, n. sp.—Testaceous; *fore-wing* suffused with ferruginous, with a black basal oblique streak, three equidistant spots on the costa, and a lunated spot on middle of posterior margin; *hind-wing* brighter, with a lengthened black spot from near the abdominal angle; antennæ, head, palpi, and thorax, dark ferruginous-brown; abdomen and legs testaceous. Expanse 2⅞ in.

a. ♀. Bootan. From Pemberton's Collection.

* This name is inapplicable, the species not being indigenous to *Silhet*.

Stirps IV.—Larvæ CUSPIDATÆ.

PHALÆNA *sect.* BOMBYCES, *pt. Linnæus, S. N.* (1767).

BOMBYCES (*Larvæ* S. T. A. R.), *Denis et Schiffermüller, Wien. Verz.* (1776).

BOMBYCIDÆ (*Stirps* V. CUSPIDATA), *Horsfield, Catal. Lep. Mus. E.I.C. pp.* 26, 27 (1828).

BOMBYX, *pt. Haworth, Lep. Brit.* (1803).

BOMBYX, *sect.* LEGITIMÆ, *pt. Latreille.*

NOTODONTIDÆ, *pt. et* PLATYPTERICIDÆ, *Stephens, Ill. Brit. Ins. Haust.* II. *p.* 10 (1829); III. *p.* 141 (1831); IV. *p.* 3 (1834).

NOTODONTÆ, *pt. Newman, Sph. Vesp. p.* 42 (1832).

ARCTIIDÆ, *pt. Westwood, Introd.* II. *p.* 384 (1840).

Larvæ greatly diversified in form. In their transformations they present four sections.

SECTION I.

Larva with fourteen legs, naked, with one or several dorsal prominences on the anterior segments; anal pro-legs obsolete, replaced by a single projecting tail; has the peculiarity of holding the anterior and posterior segments erect when at rest. Metamorphosis:—Cocoon of a slight silken texture, attached to leaves.

The perfect insect has broad wings, the fore-wings being generally falcate at the tips; flies by twilight and darkness; antennæ pectinated or bipectinated in the male, less so or filiform in the female; proboscis short or invisible.

BOMBYCES (*Larvæ* T. CUSPIDATÆ, *pt.*), *Denis et Schiffermüller, Wien. Verz. p.* 64 (1776).

PHALÆNITES, *pt. Latreille, Gén. Crust. et Ins.* IV. *pp.* 191, 226 (1809).

PLATYPTERICIDA, *pt. Duncan, in Brewster's Edinb. Encycl.* IX. *p.* 134 (1830).

PLATYPTERICIDÆ, *Stephens, Ill. Brit. Ins. Haust.* III. *p.* 141 (1831); id. IV. *p.* 3 (1834); id. *Catal. Brit. Lep. Brit. Mus. p.* 228 (1850). *Duponchel, Catal. Méth. Lép. Eur. p.* 85 (1846).

NOTODONTÆ, *pt. et* NOTODONTITES, *pt. Newman, Sph. Vesp. p.* 42

(1832); id. *Entom. Mag.* II. *p.* 383 (1834); id. *Hist. of Ins. 2nd edit. p.* 213 (1841).

DREPANULIDES, *Boisduval, Ind. Méth. Lép. Eur. p.* 82 (1840).

PLATYPTERYCIDES *et* PLATYPTERYCITES, *Blanchard, Hist. Nat. des Ins.* II. *p.* 364 (1845).

DREPANULIDÆ, *pt. Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1158 (1855).

PLATYPTERIGIDÆ, *Stainton, Manual Brit. Lep. pp.* 107, 160 (1856).

CILICINA, *Herr. Schäffer, Lep. Exot. Spec. Nov. p.* 60 (1858).

Genus DREPANA, *Schrank.*

DREPANA, *Schrank, Faun. Boica,* I. II. *p.* 155 (1802). *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1158.

FALCARIA, *Haworth, Lep. Brit.* (1803).

PRIONIA, SYSSAURA, *et* DREPANIA, *Hübner, Verz. bek. Schmett.* (1816).

PLATYPTERYX, *Laspeyres, pl.* 27 (1803). *Stephens.*

GEOMETRA, *pt. Linnæus.*

PHALÆNA, *pt. Fabricius.*

901. *DREPANA ARGENTEOLA, Moore.*

Drepana argenteola, n. sp.—Testaceous; *fore-wing* with an oblique dark-brown discal spot, an oblique narrow brown submarginal band, between which and the exterior margin is a series of minute black dots; all the veins and oblique band minutely spangled with silvery scales; *hind-wing* with a transverse brown discal band; ciliæ, brown. Expanse $1\frac{3}{8}$ in.

a. Java. From Dr. Horsfield's Collection.

902. *DREPANA RAFFLESI, Moore* (*Plate* XI*a, fig.* 1).

Drepana Rafflesi, n. sp.—UPPER-SIDE ochreous-yellow; *fore-wing* with two brown dots at the extremity of the cell; ciliæ of both wings glaucous; abdomen with some dorsal and lateral brown spots. UNDER-SIDE paler; *fore-wing* with an oblique brown discal line; *hind-wing* with an interrupted broad brown submarginal band; ciliæ of both wings glaucous; palpi brown, with black tips. Expanse 2 in.

a, ♂. Sumatra. From Sir Stamford Raffles's Collection.

Genus ORETA, *Walker*.

ORETA, *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1166 (1855).

903. *ORETA EXTENSA, Walker* (*Plate* XI*a, fig.* 2, ♀).

♂ Oreta extensa, *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1166 (1855).

♀ Oreta suffusa, *Walker*, id. *p.* 1167 (1855).

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

The larva and pupa of *Oreta extensa* are figured on Plate XVIII., figs. 3, 3*a*, from Java. "Feeds on a species of *Ixora*, bearing the native name of *Sikattan*, April and May. Not very common."—(Horsfield, MS.)

SECTION II.

Larva with fourteen legs, naked, the segments smooth, with an anterior dorsal prominence, or with several acute dorsal prominences; the anterior legs very long; anal pro-legs obsolete, replaced by two projecting tails: has the peculiarity of holding the posterior, or *both* anterior and posterior segments erect when at rest. Metamorphosis:—Cocoon generally of a hard texture.

The perfect insect has long and somewhat narrow wings; flies by night; antennæ bipectinated in both sexes, or only so in the male, with the tip filiform, and the female filiform throughout; proboscis very short, or invisible; legs densely pilose.

BOMBYCES (*Larva* S. FURCATÆ), *Denis et Schiffermüller, Wien. Verz. p.* 63 (1776).

BOMBYX, *pt. Haworth, Lep. Brit. p.* 76 (1803).

BOMBYCITES, *div.* LEGITIMÆ, *pt. Latreille, Gén. Crust. et Ins.* IV. *p.* 217 (1809).

NOTODONTIDÆ, *Stephens, Ill. Brit. Ins. Haust.* II. *p.* 10 (1828); id. *Catal. Brit. Lep. Brit. Mus. p.* 37 (1850). *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 977 (1855). *Stainton, Manual Brit. Lep. pp.* 107, 114 (1856).

BOMBYCIDA, *pt. Duncan, in Brewster's Edinb. Encycl.* IX. *p.* 131 (1833).

NOTODONTÆ, *pt. Newman, Sph. Vesp. p.* 42 (1832).

NOTODONTITES, *pt. Newman, Entom. Mag.* II. *p.* 383 (1834); id. *Hist.*

of Ins. 2nd edit. p. 213 (1841). *Blanchard, Hist. Nat. des Ins.* II. *p.* 365 (1845).

NOTODONTIDES, *pt. Boisduval, Ind. Méth. Lép. Eur. p.* 84 (1840). *Blanchard, Hist. Nat. des Ins.* II. *p.* 365 (1845).

DICRANURIDÆ, *Duponchel, Catal. Méth. Lép. Eur. p.* 86 (1846).

DICRANURIDI, *Stephens, Catal. Brit. Lep. Brit. Mus. p.* 38 (1850).

Genus CERURA, *Schrank.*

CERURA, *Schrank, Faun. Boica,* I. II. *p.* 155 (1802). *Stephens, Ill. Brit. Ins. Haust.* II. *p.* 15. *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 982.

FURCULA, *Lamarck, Invert.* III. *p.* 581 (1816).

PANIA, *Dalman, Anal. Ent. p.* 92 (1823).

DICRANURA, *Latreille, F. N. p.* 473 (1825).

HARPYIAS, *Hübner, Verz. bek. Schmett. p.* 148 (1816).

PHALÆNA-BOMBYX, *pt. Linnæus, S. N.* (1767).

904. *CERURA LITURATA, Walker.*

Cerura liturata, *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 988.

a. b. ♂. N. India. Presented by Colonel Buckley.

Genus THIACIDAS, *Walker.*

THIACIDAS, *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1027 (1855).

905. *THIACIDAS POSTICA, Walker.*

Thiacidas postica, *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1028 (1855).

a. ♂. Canara. Presented by S. N. Ward, Esq.

Genus STAUROPUS, *Germar.*

STAUROPUS, *Germar, Prod. p.* 45 (1811). *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1019.

TERASION, *Hübner, Verz. bek. Schmett. p.* 147 (1816).

BOMBYX, *pt. Linnæus.*

HARPYIA, *pt. Ochsenheimer.*

906. *STAUROPUS ALTERNUS, Walker.*

♀ Stauropus alternus, *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1020 (1855).

a. b. ♀. Java. From Dr. Horsfield's Collection.
c. ♂. Canara. Presented by S. N. Ward, Esq.

The larva and pupa of *St. alternus* are figured on Plate XVIII., figs. 4, 4*a*, from Java. "Feeds on a species of *Mangifera*, bearing the native name of *Ingas*, and on *Tamarindus*. March. Scarce."—(Horsfield, MS.)

The larva of this species is also figured among the drawings of E. L. Layard, Esq., from Ceylon.

Genus NETRIA, *Walker*.

NETRIA, *Walker, List Lep. Het. Brit. Mus. pt.* VI. *p.* 1504 (1855).

907. *NETRIA VIRIDESCENS, Walker* (*Plate* XI*a*, *fig.* 3).

♀ Netria viridescens, *Walker, List Lep. Het. Brit. Mus. pt.* VI. *p.* 1504 (1855).

a. b. c. ♂ ♀. Java. From Dr. Horsfield's Collection.

SECTION III.

Larva with sixteen legs, elongate, attenuated anteriorly, naked, or subpilose, with or without a single or double conical dorsal prominence on the twelfth segment, or with a conical dorsal prominence on the fifth, sixth, seventh, eighth, and twelfth segments: some have the peculiarity of holding the posterior segments erect when at rest. Metamorphosis:—Cocoon slight, sometimes subterranean.

The perfect insect has long but somewhat broad wings, the inner margin of the fore-wing being in some dentate; flies by day or night; antennæ bipectinated in the male, less so or simple in the female; proboscis very short, medial, or invisible; legs densely pilose.

BOMBYCES (*Larvæ* A. *pt. et* R. SPHINGIFORMES *et* GIBBOSÆ), *Denis et Schiffermüller, Wien. Verz. pp.* 48, 62 (1776).

BOMBYX, *pt. Haworth, Lep. Brit. pp.* 76, 95 (1803).

NOTODONTIDÆ, *pt. Stephens, Ill. Brit. Ins. Haust.* II. *p.* 10 (1829); id. *Catal. Brit. Lep. Brit. Mus. p.* 37 (1850). *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 977 (1855). *Stainton, Manual Brit. Lep. pp.* 107, 114 (1856).

NOTODONTÆ, *pt. et* NOTODONTITES, *pt. Newman, Sph. Vesp. p.* 42 (1832); *Entom. Mag.* II. *p.* 383 (1834); id. *Hist. of Ins. 2nd ed. p.* 213 (1841).

NOTODONTIDES, *pt.* ENDROMIDES, *Boisduval, Ind. Méth. Lép. Eur. pp.* 74, 84 (1840).

NOTODONTITES, *pt. et* ENDROMITES, *Blanchard, Hist. Nat. des Ins.* II. *pp.* 361, 365 (1845).

NOTODONTIDI *et* ENDROMIDI, *Stephens, Catal. Brit. Lep. Brit. Mus. pp.* 40, 44 (1850).

ENDROMIDÆ, *Duponchel, Catal. Méth. Lép. Eur. p.* 79 (1846). *Walker, List Lep. Het. Brit. Mus. pt.* VI. *p.* 1384 (1855). *Stainton, Manual Brit. Lep. pp.* 107, 158 (1856).

BOMBYCIDÆ, *pt. Walker, List Lep. Het. Brit. Mus. pt.* VI. *p.* 1386 (1855).

NOTODONTINA, *Herr. Schäffer, Lep. Exot. Spec. Nov. p.* 66 (1858).

Genus ROSAMA, *Walker.*

ROSAMA, *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1066 (1855).

PTERODONTA, *Guenée, MS. Mus. India House.*

908. *ROSAMA STRIGOSA, Walker* (*Plate* XI*a*, *fig.* 4).

Rosama strigosa, *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1066 (1855).

Pterodonta aurimacula, *Guenée, MS. Mus. India House.*

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

The larva and pupa of *Rosama strigosa* are figured on Plate XVIII., fig. 5, 5*a*, from Java. "Feeds on a species of *Hedysarum*, bearing the native name of *Oppo-oppo*. February."—(Horsfield, MS.)

SECTION IV.

Larva with sixteen legs, naked, elongate, with the third and fourth segments thickened; head small; a dorsal spine on the twelfth segment only, or, as in *Bombyx Huttoni* (according to Capt. Hutton), covered throughout with long spines. Metamorphosis: — Cocoon oval, of the finest silken texture.

The perfect insect has short broad wings, the fore-wing being moderately falcate at the tip; flies by night; antennæ bipectinated; proboscis obsolete, or very short; body short, thick; legs pilose.

BOMBYCES (*Larva* A. *pt.* SPHINGIFORMES), *Denis et Schiffermüller, Wien. Verz. p.* 48 (1776).

BOMBYCIDÆ, *pt. Westwood, Intr.* II. *p.* 379 (1840). *Walker, List Lep. Het. Brit. Mus. pt.* VI. *p.* 1386 (1856).

Genus BOMBYX, *Schrank.*

BOMBYX, *Schrank, Faun. Boica,* II. *pt.* II. *p.* 150 (1802). *Hübner, Verz. bek. Schmett. p.* 190 (1816). *Walker, List Lep. Het. Brit. Mus. pt.* VI. *p.* 1505.

PHALÆNA-BOMBYX, *pt. Linnæus.*

BOMBYX, *pt. Fabricius.*

SERICARIA, *pt. Latreille.*

909. *BOMBYX MORI, Linnæus.*

Phalæna-Bombyx Mori, *Linnæus, Syst. Nat.* I. II. *p.* 817 (1767); *Amœn. Acad.* IV. *p.* 563; *Faun. Suec. p.* 832. (*Aldrov. Ins. p.* 280. *Albin, Ins. pl.* 12, *f.* 16. *Réaum. Ins.* II. *pl.* 5, *f.* 2. *Roësel, Ins.* III. *pl.* 7, 8).

Bombyx Mori, *Fabricius, Spec. Ins.* II. *p.* 180; *Mant. Ins.* II. *p.* 114; *Ent. Syst.* III. I. *p.* 431. *Godart, Lép. de France,* IV. *p.* 153, *pl.* 14, *f.* 3, 4. *Helfer, Journ. Asiatic Soc. Bengal,* VI. *p.* 40. *Walker, List Lep. Het. Brit. Mus. pt.* VI. *p.* 1505. *Royle, Report on the Paris Univ. Exhib. pt.* III. *p.* 216.

Sericaria Mori, *Blanchard, Gay, Hist. de Chile, Zool.* VII. *p.* 55.

The common Chinese silkworm of commerce.

PAT of Bengal, *Royle.*

a. b. ♂ ♀. Bred in England. Presented by Mr. F. Moore.

In a "Dissertation on the Silk Manufacture and the Cultivation of the Mulberry," translated from the Chinese works of Tseu-kwang-k'he, called also Paul Siu, a Colao, or Minister of State, in China, and recently published at Shanghæ, and reprinted in 1858 at Madras, it is stated that "the earliest allusion to the mulberry and silk met with in the ancient writings of the Chinese is in the Historical Classic, a work which existed before the days of Confucius, because it is quoted by him, and which embraces the history of China from (B.C. 2356 to B.C. 722) a period of 1,634 years. In the former part of this period, we have the allusions referred to recorded in the section called the tribute of Yû, who flourished 2,200 years before Christ. In his days the mulberry is spoken of as a well-known production, and silk

as obtained therefrom; so that it must have been discovered before his days. The usual tradition is, that it was discovered during the reign of Hwângté (B.C. 2640), by his queen.

The passages in the Historical Classic, in which references to the mulberry and silk are made, are as follows:—In giving an account of Yen-chow, the south-western part of the modern Shan-tung, the writer says, "The mulberry region having been supplied with silkworms, the people descended from the hills, and dwelt in the plains." On this the commentator remarks:—"The nature of the silkworm is to abhor dampness; hence is was not till the waters were abated that the silkworms could be reared. The nine regions of China equally depended upon this source of wealth; but the Yen province alone is mentioned, because it was best adapted for the mulberry." The Classic goes on to say, that the tribute of Yen-chow consisted in varnish and silk, while their tribute-baskets were filled with wove stuffs of various colours." (*See* translation of the Shoo-king, pp. 91, 92.)

In speaking of the production of Tsing-chow, the north-eastern part of Shan-tung, the Classic says, that "from the valley of the Taé mountain they brought silk and hemp; while their tribute-baskets were stored with the wild mulberry and silk." The silk produced from the mountain mulberry is said by the commentator to be so tenacious, that it was peculiarly adapted for harps and guitars. (See translation of the Shoo-king, p. 93.)

Black silk and chequered sarcenets are spoken of as the production of Tseu-chow, the southern part of Shan-tung, and the northern part of Këang-soo. (*See* translation of the Shoo-king, p. 96.)

The productions of King-chow, the modern Hoôk-wang, where silk has since been cultivated to a great extent, are spoken of as consisting of black and red silks, with silk fringes. (*See* translation of the Shoo-king, p. 101.)

The next Classic in which we find any reference to the silkworm is the Chow-le, or Account of the Ceremonies of the Chow dynasty, where it is said, that "the officer who adjusted the price of horses forbade the people to rear the second breed of silkworms in one season," because, in accordance with the views of astrologers, the horse belonged to the same constellation with the silkworms; and they were therefore considered of the same origin. Conceiving that two things of like nature could not prosper at the same time, the Chinese forbade the rearing of the second breed of silkworms, lest it

should be of some disadvantage to the horses. However absurd this notion, it shows, at the least, that the rearing of silkworms was a common practice at that period.

After this, we meet with frequent references to this subject in the Le-ke Book of Ceremonies. This book was written partly in the Tsin dynasty (B.C. 204), and partly in the Hàn dynasty (B.C. 135), and gives an account of the ceremonies observed by the Chinese in very early antiquity. In the 6th section of this work, entitled Yue-ling, we meet with the following directions :—

"In the first month of spring, orders were issued to the forester not to cut down the mulberry-trees ; and when the cooing doves were observed fluttering with their wings, and the crested jays alighting upon the mulberry-trees, people were to prepare the trays and frames for the purpose of rearing the silkworms.

"In the spring season, when the empress and her ladies had fasted, they proceeded to the east, and personally engaged in picking the mulberry-leaves. On this occasion, the married and single ladies were forbidden to wear their ornaments, and the usual employments of females were lessened, in order to encourage attention to the silkworms. When the rearing of the silkworms was completed, the cocoons were divided (for reeling), and the silk weighed (for weaving), each person being rewarded according to her labour, in order to provide dresses for the celestial and ancestorial sacrifices; in all this none dared indulge in indolence."

From another passage of the same section we learn, that in "the last month of summer, the order was given to the female officers to dye the silk of various colours, in order to weave checkered sarcenets, comprising black and white, black and green, green and red, with red and white checks! all which was to be done according to the ancient rule, without the least variation; the black, yellow, azure, and red tints were all to be correct and good, without the least fault, in order to provide dresses for the celestial and ancestorial sacrifices, and standards for distinguishing the high and low degrees."

In the 24th section of the same book, on sacrificial rites, we read, that "in ancient times the emperor and his princes had a public mulberry-garden and a silkworm establishment erected near some river. On the morning of the first day of the third month of spring, the sovereign, wearing a leather cap and a plain garment, ascertained by lot the chief of his three queens, with the most honourable amongst his concubines, and caused them to attend to the rearing of the silkworms in the above-named establishment. They then brought the

eggs of the worms and washed them in the river above alluded to; after which they picked the mulberry-leaves in the public garden, and aired and dried them, in order to feed the worms.

"When the season was over, the royal concubines, having completed the business of rearing the silkworms, brought the cocoons to show them to the prince, when he presented the cocoons again to his consort; whereupon his consort said, 'This is the material of which your highness's robes are to be formed.' Having said which, she covered herself with her robe, and received the cocoons. On this occasion, the ladies of the court were honoured with the present of a sheep. This was the mode in which the presentation of the cocoons was anciently conducted."

Hawae-nan-tsze, in the silkworm Classic, says, that "Se-ling-she, the principal queen of Hwang-te (B.C. 2640), was the first to rear silkworms; and the Hwang-te was induced to invent robes and garments from this circumstance. Afterwards, when Yu regulated the waters (B.C. 2200), mention is made, in his work on the tribute, of the land adapted for the mulberry-tree having been supplied with 'silkworms,' from which time the advantage thereof gradually increased. In the Yue-ling section of the Le-ke, it is said, that in the last month of spring the trays and frames, with the square and round baskets, were to be got in readiness for the rearing of the worms, &c. It appears, on examination, that the queens and wives of the nobles, through successive generations, personally attended to the rearing of the silkworms; how much more, then, ought the wives of the common people to busy themselves in the same. All this alludes to what was done in the Chow dynasty, B.C. 1000. It is recorded of Wán-te, of the former Hàn dynasty (B.C. 150), that he commanded his empress personally to attend to the picking of the mulberry-leaves, in order to prepare the sacrificial garments. King-té (B.C. 130) enjoined the same thing on his queen, that she might be an example to the empire. In the time of Yuên-té (B.C. 20), the empress-dowager Wang visited the silkworm establishment, leading on the empress and the different ladies of the court, to gather mulberry-leaves. In the time of Ming-té (A.D. 70), the empress, with the ladies of the princes, attended to the rearing of the silkworms. During the Wei dynasty, in the reign of Wàn-té (A.D. 250), the empress attended to the silkworms at the southern border, according to the regulations of the Chow dynasty. During the Tsin dynasty, in the reign of Woó-té (A.D. 280), the silkworm palace was built, and the empress personally attended to the business of rearing the silkworms, as had been the practice

during the two preceding dynasties. During the Súng dynasty, in the reign of Heaóu-woó (A.D. 460), the silkworm monastery was built, and the empress personally gathered the mulberry-leaves, as had been the practice in the preceding dynasty.

"In the northern Tsê dynasty (A.D. 490), a silkworm palace was erected, and the empress went in person to gather the mulberry-leaves. According to the regulations of the Sûy dynasty (A.D. 620), the empress went to the appointed place to gather the mulberry-leaves. During the Tâng dynasty, in the reign of Chin-kwan (A.D. 650), the empress did the same. In the first year of the following monarch, Hëèn-k'hing (A.D. 655), and in the reign of Këeu-yuen (A.D. 747), the empresses all attended to the silkworm ceremony. At the same time a decree was issued, requiring that the silkworms should be fed in the palace, when the empress went in person to inspect them. During the Súng dynasty, in the reign of K'hae-paòu (A.D. 960), on recording the ceremonies performed at the celestial sacrifice, the prayer is given which was offered when the empress went in person to rear the silkworms. From all which we perceive that the empresses through successive dynasties attended in person to the business of rearing the silkworms. By selecting these extracts from the historical documents, we have set this matter in a very clear light, and placed the whole at the head of our treatise."

The essay from which the preceding extract has been made, c[ontains] many other interesting details, showing the importance atta[ched] in the earlier periods of Chinese history to the manufacture of [silk] generally, and especially to the cultivation of the mulberry in i[ts] various modifications.

"The culture of the mulberry silkworm" (*Bombyx Mori*), says Dr. Royle (Report on the Paris Universal Exhibition, pt. III. p. 216), "was early introduced into India from China, where it flourishes chiefly about Nankin, or in 32° of north latitude; but in India none of the old silk filatures extend to beyond 26° of north latitude. This can, I conceive, be ascribed only to the excessive heat and dryness of the North-western provinces of India being unsuitable to the animal, besides producing a drier and harder leaf than it likes for its food."

The Rev. W. Fox, curate of West Malling, Kent, records the fact (see *Athenæum* for October 16th, 1858) of the occurrence of *Bom[byx] Mori* having been found in a wild state in England, and gives the following remarks:—"On the 10th July, 1858, a number of silk worms, estimated at from eighty to one hundred, were found und[er]

a hedge in a place called Banksfield, near West Malling, not far from Maidstone, Kent. There was no appearance of the insects having been scattered accidentally in the place, but, on the contrary, every indication of their having been hatched and sustained for some time in the spot where they were discovered. The leaves of several plants in the immediate vicinity were much eaten, showing plainly that the larvæ had for some time been feeding upon them. A bush of the common bramble (*Rubus fruticosus*), among others, had been partially despoiled of its leaves. When discovered, about three-fourths of the whole number had spun their cocoons, which were hanging in all directions upon the weeds and the bramble referred to. Some were just commencing the spinning process, while others were yet in the larva state, and were feeding quietly or roving about in quest of suitable places in which to construct their silken cells. Both the silk cocoons and the remaining larvæ were subjected to a close examination by the aid of a microscope, and were compared with other silkworms and cocoons which had been bred or formed under the shelter of a house; but no perceptible difference of species could be discovered."

910. *BOMBYX HUTTONI, Westwood.*

Bombyx Huttoni, *Westwood, Cabinet Orient. Ent. p.* 26, *pl.* 12, *f.* 4 (1847). *Walker, List Lep. Het. Brit. Mus. pt.* VI. *p.* 1506.

? Bombyx religiosa, *Helfer, Journ. Asiatic Soc. Bengal,* VI. *p.* 41, *pl.* 6 (1837).

? The Joree Silkworm Moth, *Helfer.*

? The Deo-mooga Silkworm, *Hugon, J. A. S. Beng.* VI. *pp.* 32, 41.

a. ♀. Mussooree. Presented by J. O. Westwood, Esq.

"This species," says Capt. Hutton, "is an inhabitant of these hills (Mussooree), occurring abundantly from the Doon upwards to at least 7,000 feet; and the caterpillar, like that of *B. Mori*, feeds on the leaves of the wild mulberry, which grows here in our forests. Unlike the larva of *B. Mori*, however, the present species has the caterpillar covered with long spines, although in colouring and shape there is great similarity between the two. The cocoon is spun in the leaf, which is drawn round it, and the silk is very fine, and of a very pale-yellow tint. I discovered this species on the 7th May, 1842, on some mulberry-trees growing at an elevation of about 6,500 feet above

the sea, with a southern aspect. Some of the caterpillars were of a large size, and nearly full-grown at this time, whilst others were in all their intermediate stages of growth. The caterpillar is of a pale yellowish cream-colour, mottled or marbled down the back and sides with a mixture of grey, yellow, and rufous or brownish lines; the anterior segments of the body are mottled above with livid grey, and ornamented with four blackish oblong spots or ocelli placed obliquely; along the back are two rows of long black spines curving backwards, and on the anal segment is one long spine in the middle; the two anterior pair of spines spring from the ocelli, and the last pair are curved forwards instead of backwards like the rest; there is also on each side a row of short spines springing from the base of the true legs. The anterior segments swell up into a hump, like those of the larva of *B. Mori*. As the caterpillar becomes mature, the rufous colouring fades away, and gives place to a mottling of pale livid grey; the head is also mottled. It grows to about 2½ inches in length, and spins in the leaf early in May. They are double-brooded, for mine all hatched in June, and deposited their eggs, a few of which produced caterpillars that year; but the greater number remained until the following spring."—(Westwood's Cab. Orient. Ent.)

Capt. Hutton, in reply to some inquiries by J. Bashford, Esq. relating to this species, states (Journ. Agri-Horticult. Soc. India IX. p. 391, 1857), "that *Bombyx Huttoni* cannot be treated like t[illegible] domestic kinds, but must (at least for the present) be reared *u[illegible] the trees*. The worms will not remain in the trays, nor even [illegible] twigs placed in water, when once the freshness of the leaf is gone. On the tree it is perfectly free from restlessness, and saves a vast expense in feeding, besides possessing the advantage of always having perfectly fresh food at command, an essential point in forming good silk, as the quality of this substance must always be greatly influenced by the healthy secretions of the animals producing it.

"Cocoons of *B. Huttoni* produced in the house from worms placed upon small branches set in jars of water to keep them fresh, are always inferior to those produced upon the trees; and I doubt not you would find this to be the case with the domestic species in Bengal."

The Agri-Horticultural Society of India has lately reported most favourably on the silk of this species, which has been brought into notice by Capt. Hutton. The worm spins in all weathers, whereas the common silkworm (*B. Mori*) is apt to be thrown off work by a passing cloud. It is thought that this new silkworm may prove

commercially important, and Government is solicited to institute experiments regarding its productive powers. (*Vide* Madras Journal, March, 1857, p. 268.)

Remark.—After examination of typical specimens of *B. Huttoni*, and comparing them with the descriptions of Dr. Helfer's *B. religiosa*, I am inclined to believe that they are one and the same species.

911. *BOMBYX HORSFIELDI, Moore* (*Plate* XI*a*, *fig.* 5).

Bombyx Horsfieldi, n. sp.—Female, brownish-grey; *fore-wing* with two transverse slightly-curved brown bands,—the first one-third from the base, the other one-third from the apex, the latter having undulated margins; between the two bands is a grey-centred brown discal spot, a brown streak immediately below the apex, its inner margin pale: *hind-wing* pale ferruginous at the base, a narrow curved submarginal pale line, the veins also pale; abdominal margin with two blackish-brown spots,—one being near its base, the other about its middle. Expanse 2¾ in.

a. ♀. Java. From Dr. Horsfield's Collection.

Genus OCINARA, *Walker*.

OCINARA, *Walker, List Lep. Het. Brit. Mus. pt.* VII. *p.* 1768 (1856).

OCINARA DILECTULA, Walker.

♂ Ocinara dilectula, *Walker, List Lep. Het. Brit. Mus. pt.* VII. *p.* 1768 (1856).

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

The larva and cocoon of *Ocinara dilectula* are figured on Plate XVIII., figs. 6, 6*a*, from Java. "Feeds on a species of *Ficus*, bearing the native name of *Weringin*. April. Not very abundant."—Horsfield, MS.)

13. *OCINARA LIDA, Moore.*

Ocinara Lida, n. sp.—Male, whitish, wings semi-hyaline; *fore-wing* with a transverse blackish undulated line one-fourth from the apex, the upper portion being dotted with black, its inner margin having a suffused band of very pale greenish-brown, which colour is also diffused below the apex; some indistinct transverse sub-basal zigzag

lines; *hind-wing* with a very pale greenish-brown curved submarginal band, having a brown dot on the abdominal margin; palpi mostly ferruginous; antennæ and body pale testaceous-white. Expanse $1\frac{3}{8}$ in.

a. ♂. Java. From Dr. Horsfield's Collection.

Genus TRILOCHA, *Moore*.

NAPREPA,* *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1152 (1855).

914. *TRILOCHA VARIANS, Walker Sp.* (*Plate* XI*a*, *fig.* 6).

♂ Naprepa varians, *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1153 (1855).

a. ♀. Canara. Presented by S. N. Ward, Esq.

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* Mr. Walker had previously used this name. (*See* List Lep. Het. Brit. Mus. pt. V. p. 1046.)

Stirps V.—Larvæ VERTICILLATÆ.

The larva of this stirps is elongate and robust, presenting the following modifications:—

(*a*) A larva bearing on its entire length short tubercles terminated by a whorl (or verticill) of short star-like diverging hairs (*pilis stellatim divergentibus*).

(*b*) In the genus *Attacus* the larva is armed, in place of the diverging tufts, with long or short fleshy spines.

Metamorphosis:—Cocoon large, of a fine or coarse but firm silken texture, either of a lengthened oval shape and attenuated or pointed at each end, or pyriform or quite oval, exceedingly firm, and attached to a twig by a long silken footstalk.

The perfect insect has very large broad wings, the fore-wings being more or less falcate or rounded at the tips; generally with an ocellus, which is varied in size and form, and whose disc is partially or wholly vitreous; in some genera the hind-wing is produced anally into a long tail. Flight nocturnal; antennæ very deeply bipectinated in the male, with the branches in pairs; less so in the female, with the branches also in pairs or single; proboscis short and distinct, or invisible or obsolete; abdomen small in the male, very large and stout in the female.

PHALÆNA, *sect.* ATTACI, *pt. Linnæus, S. N.* (1767).

BOMBYCES (*Larva* B. VERTICILLATÆ), *Denis et Schiffermüller, Wien. Verz. p.* 49 (1776).

BOMBYCIDÆ (*Stirps* II. VERTICILLATA, *pt.*), *Horsfield, Catal. Lep. Mus. E.I.C. pp.* 24, 27 (1828).

BOMBYX, *pt. Haworth, Lep. Brit. pp.* 76, 78 (1803).

BOMBYCITES LEGITIMÆ, *pt. Latreille, Gén. Crust. et Ins.* IV. *p.* 217 (1809).

BOMBYCIDA, *pt. Duncan, in Brewster's Edinb. Encycl.* IX. *p.* 131 (1830).

PHALÆNÆ *et* PHALÆNITES, *Newman, Sph. Vesp. p.* 45 (1832); id. *Entom. Mag.* II. *p.* 383 (1834); id. *Hist. of Ins. 2nd edit. p.* 212 (1841).

BOMBYCIDÆ, *pt. Stephens, Ill. Brit. Ins. Haust.* II. *p.* 35 (1829); id. *Catal. Brit. Lep. Brit. Mus. p.* 44 (1850). *Westwood, Intr.* II. *p.* 379 (1840). *Swainson, Cabinet Cyclop. p.* 105 (1840).

SATURNIDES, *Boisduval, Ind. Méth. p.* 73 (1840).
ATTACITES, *Blanchard, Hist. Nat. des Ins.* II. *p.* 361 (1845).
ATTACIDÆ, *Duponchel, Catal. Méth. Eur. Lép. p.* 78 (1846).
ATTACIDI, *Stephens, Catal. Brit. Lep. Brit. Mus. p.* 44 (1850).
SATURNIDÆ, *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1198 (1855). *Stainton, Manual Brit. Lep. pp.* 107, 159 (1856).
SATURNIINA, *Herr. Schäffer, Lep. Exot. Spec. Nov. p.* 60 (1858).

Genus CRICULA, *Walker.*

CRICULA, *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1186 (1855).
EUPHRANOR, *Herr. Schäffer, Lep. Exot. Spec. Nov. p.* 61 (1858).

915. *CRICULA TRIFENESTRATA, Helfer Sp.*

Saturnia trifenestrata, *Helfer, Journ. Asiatic Soc. Bengal,* VI. *p.* 45 (1837). *Herr. Schäffer, Lep. Exot. Spec. Nov. ser.* I. *pl.* 17, *f.* 80, ♀.

Cricula trifenestrata, *Walker, List Lep. Het. Brit. Mus. pt.* V. *pp.* 1187, 1196.

Euphranor trifenestrata, *Herr. Schäffer, Lep. Exot. Spec. Nov. p.* 61 (1858).

♂ Saturnia Zuleika, *Westwood, Cabinet Orient. Ent. p.* 25, *pl.* 11, *f.* 1 (1847).

Antheræa Zuleika, *Walker, List Lep. Het. Brit. M* *pt.* V. *p.* 1252.

? Phalæna-Attacus fenestrata, *Linnæus, Syst. Nat.* I. 1. *p.* 811; *Mus. Lud. Ulr. p.* 372. *Clerck, Icon. pl.* 55, *f.* 1.

? Phalæna-Attacus perspicua, *Linnæus, S. N.* I. II. *p.* 811; *Mus. Lud. Ulr. p.* 373.

? var. ♀ Euphranor multifenestrata, *Herr. Schäffer, Lep. Exot. Spec. Nov. ser.* I. *f.* 551, *p.* 61.

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

e. ♂. N. India. From Capt. Harrington's Collection.

f. var. ♀. (? *Euphranor multifenestrata,* H. Schäffer.) Canara. Presented by S. N. Ward, Esq.

The larva, cocoon, and pupa of *C. trifenestrata* are figured on Plate XVIII., figs. 7, 7*a*, 7*b*, from Java. "Feeds on the *Teng-gulun* (*Protium javanum*), the *Kettos* (*Canarium commune*), the *Ing*

(*Mangifera Ingas* ?). December and January. Abundant. Solitary in March."—(Horsfield, MS.)

Discovered in Assam by Capt. Jenkins, where it "lives on the *Soon* tree, but seems to be not much used."

"Eggs whitish-yellow; larva and pupa unknown [to Dr. Helfer]; cocoon yellow, in a network, transparent, so that the chrysalis in the inside is to be seen, of a remarkable silky lustre." — (Dr. Helfer, J. A. S. Beng. (1837), p. 45.)

Transformations also observed by Mrs. Hamilton, and figured among her original drawings, now in the possession of the Entomological Society of London.

This interesting species of silkworm moth has been lately found and reared in Moulmein by Capt. J. C. Haughton, who states that he "only observed it upon the Cashew-nut tree (*Anacardium orientale*), which, though exotic, has thoroughly taken root both at Tavoy and at Moulmein, and is now to be found in every native garden." — (Journal of the Agri-Horticultural Society of India, vol. X. pt. I. p. 101, 1858.)

Genus ANTHERÆA, *Hübner.*

ANTHERÆA, *Hübner, Verz. bek. Schmett. p.* 152 (1816). *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1239.

PHALÆNA-ATTACUS, *pt. Linnæus.*

BOMBYX, *pt. Fabricius.*

16. *ANTHERÆA PAPHIA, Linnæus Sp.*

Phalæna-Attacus Paphia, *Linnæus, Syst. Nat.* I. II. *p.* 809 (1767); *Mus. Lud. Ulr. p.* 369. *Cramer, Pap. Exot.* II. *pp.* 78, 81, 82, *pl.* 146, *f. A.* ♀, *pl.* 147, *f. A. B.* ♀, *pl.* 148, *f. A.* ♂.

Antheræa Paphia, *Hübner, Verz. bek. Schmett. p.* 152.

Bombyx Paphia, *Fabricius, Syst. Ent. p.* 557; *Spec. Ins.* II. *p.* 168; *Mant. Ins.* II. *p.* 108; *Ent. Syst.* III. I. *p.* 409. *Sykes, Trans. Asiat. Soc. Lond.* III. *p.* 541, *plate.*

Phalæna Paphia, *Roxburgh, Trans. Linn. Soc.* VII. *p.* 33 (1804).

Saturnia Paphia, *Helfer, Journ. As. Soc. Beng.* VI. *p.* 42 (1837).

Phalæna-Attacus Mylitta, *Drury, Ill. Exot. Ins.* II. *p.* 8, *pl.* 5, *f.* 1; *App. p.* (1773).

Bombyx Mylitta, *Fabricius, Syst. Ent. p.* 558; *Spec. Ins.* II. *p.* 168; *Mant. Ins.* II. *p.* 108; *Ent. Syst.* III. I. *p.* 411.

Antheræa Mylitta, *Hübner, Verz. bek. Schmett. p.* 152. *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1247.

Attacus Mylitta, *Blanchard, in Jacquemont's Voy. dans l'Inde, Zool. Ins. p.* 24, *pl.* III.

Saturnia Mylitta, *Westwood, ed. Drury, Ins.* II. *p.* 10, *pl.* 5, *f.* 1. *Royle, Reports on the Paris Universal Exhibition, pt.* III. *p.* 216. *Guérin-Méneville,** *Rev. et Mag. Zool.* (1855), *p.* 297, *pl.* 6, *f.* 2.

Tesser; Folliculus *et* Eruca Bengalensis *vocatur* Tesser, *Rumphius, Herb. Amb.* III. *p.* 115 (1750).

Tusseh Silkworm Moth, Hind., *Helfer.*

Bughy Silkworm Moth, of the Burbhoom-hills, *Roxburgh.*

Kolisurra Silkworm Moth of the Mahrattas, *Col. Sykes.*

Munga Silkworm Moth of the Meches, *B. H. Hodgson, Esq.*

Konkuri Mooga, of the Assamese, *Hugon, J. A. S. Beng.* VI. *p.* 32 (1837).

a. b. ♂ ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

c. d. ♂ ♀. Bengal. Presented by Col. Buckley.

e. f. ♂ ♀. Dukhun. Presented by Col. Sykes.

g. h. ♂ ♀. Madras. From Capt. J. M. Jones's Collection.

i. ♀. Java. From Dr. Horsfield's Collection.

The larva and cocoon of *Antheræa Paphia* are figured on Plate XIX., figs. 1, 1*a*, copied from the original drawings made by Lady Isabella Rose Gilbert.

The transformations of the Tusseh moth are also figured by the late General Hardwicke (*see* his drawings, vol. 10999, pl. 223), and more roughly by Dr. Roxburgh, in Trans. Linn. Soc. VII. p. 48. pl. 2.

One of the earliest notices of this insect, or of a species very nearly

* *Antheræa Pernyi*, Guérin-Méneville, Rev. et Mag. de Zool. (1855), p. 297 pl. 6, fig. 1, is a species distinct from any here enumerated.

related to it, is given by the venerable Rumphius, in his "Herbarium Amboinense," vol. III. p. 113, pl. 75, who discovered the larva in Amboina feeding on the *Mangium caseolare rubrum* (*Rizophora caseolaris*, Linn.), a plant of the order of Terebintaceæ. The figures of the larva and cocoon on Rumphius's plate show its close affinity to the *Anth. Paphia*. After describing the larva and pupa, he continues, "postquam tales folliculos per trium septimanarum spatium servaveram, tam ex devoluto quam ex integro papilio exit, qui ex pulcherrimis et maximis erat, quos unquam conspexi, qui ad superiorem corporis partem sese demordens aperit, simulque secum flavescentis serici floccum educit, atque hoc semper per noctem peragit. Ejus corpus est, uti reliquorum papilionum, coloris squallide flavi, binosque digiti articulos longum, ad caput vero bina gerit cornicula plumacea, coloris aurantii: Quatuor magnas habet alas, quarum binæ exteriores maximæ sunt digitum circiter longæ, coloris aurantii, sed stria transversalis purpurea per illas decurrit, atque quævis ala in ejus medio oculum quasi gerit fenestratum, qui circulo purpureo circumductus est et instar vitri pellucidus."

Dr. Roxburgh (the next author) states this to be the *Bughy* of the natives of the Burbhoom hills, where the silk which the same people call *Tusseh* is manufactured. A native of Bengal, Bahar, Assam, &c. Feeds upon the leaves of *Rhamnus jujuba* (Byer of the Hindoos), and of *Terminalia alata glabra*, Roxb. (Asseen of the Hindoos).

They are found in such abundance over many parts of Bengal and the adjoining provinces, as to have afforded to the natives, from time immemorial, an abundant supply of a most durable, coarse, dark-coloured silk, commonly called Tusseh silk, which is woven into a kind of cloth called Tusseh-doot'hies, much worn by Brahmins and other sects of Hindoos.

Eggs white, which hatch in from two to four weeks. The larvæ acquire their full size, which is about four inches in length, and three in circumference, in about six weeks. When the larvæ approach their full size, they are too heavy to crawl in search of their food with the back up, as is usual with most caterpillars, but traverse the branch suspended by the feet. When the larvæ are ready to spin the cocoon, each of them connects, by means of the recent glutinous filament of which the cocoon is made, two or three leaves into an exterior envelope, which serves as a basis to spin the complete cocoon in; besides, the cocoon is suspended from a branch of the tree by a thick, strong consolidated cord. The cocoon is of an exact oval shape, and exceedingly firm texture. The chrysalis remains dormant for about nine

months, viz. from October until July, the perfect insect always emerging during the night, and does not exist more than from six to twelve days when confined.

Michael Atkinson, Esq., says, "This species cannot be domesticated. I am informed that the natives cannot even retain any of it for seed. The hill people say that they go into the jungles, and under the Byer and Asseen trees they find the excrement of the insect; on which they examine the tree, and, on discovering the small worms, they cut off branches of the tree sufficient for their purpose, with the young brood upon them; these they carry to convenient situations near their houses, and distribute the branches on the Asseen tree in proportion to the size thereof; but they put none on the Byer tree. The Parieahs, or hill people, guard the insects night and day while in the worm state, to preserve them from crows and other birds by day, and from bats by night."—(Dr. Roxburgh, Trans. Linn. Soc. VII. p. 33, 1804.)

According to Col. Sykes, this is the "Kolisurra silkworm of the Deccan. It feeds indiscriminately on the Sagwan, or Teak tree (*Tectona grandis*), the Bor (*Zizyphus jujube*), the Asana (*Terminalia alata glabra*), and the mulberry, Tut (*Morus indica*). The cocoons are extensively used by matchlock-men, cut into thongs, as ligatures for binding the matchlock-barrel to the stock: the thongs are more durable than those of leather."

From the Journal of the Agricultural and Horticultural Soc[illegible] of India, VI. p. 167 (1848), *et seqq.*, we extract the following no[illegible] by Messrs. B. H. Hodgson and R. W. G. Frith. According to Mr. Hodgson, "this is the *Munga* silkworm moth of the Meches, and is found wild in the *Saul* forest. It feeds on the Saul tree (*Shorea robusta*); the fibre yielded is very strong, and must surely be that known to classic commerce, and used by the Romans for the manufacture of the awnings of their immense theatres." Mr. Frith says:—"As far as my acquaintance with this insect extends, I believe it to be found throughout the whole of this side of India; that is to say, from the north-western range of the Himalaya direct south as far as Midnapore, and also through the north-eastern range to Assam, and southwards to Chittagong. I have no doubt but that it extends further, but cannot state so from my own experience. Dr. Royle, in his volume on the productive resources of India, states that it was found by Col. Sykes in the Bombay and by Dr. Geddes in the Madras presidency. I have seen it from Mussooree, and have it in my own collection from Kussowlee, Darjeeling, Assam, Cherra Poonjee, Sylhet

Chittagong, from Chota Nagpore, and from several of the districts of Bengal. In Bengal I have taken the larva at all seasons of the year, excepting during the cold weather, when the trees constituting its food are useless. It is most abundant, I am informed, in the Bhaugulpore district, where the cocoons, in their proper season, are collected by cartloads for the manufacture of the *Bhaugulpore* or *Tusseh silk*, as it is called, and now so well known. It is not on account of the great size of the larva that it is obliged to take to the under-side of the twigs to enable it to traverse them in search of food (as is [above] stated by Dr. Roxburgh), for it can pass along the twigs in any *position* when they are *strong* and *thick* enough for its powerfully-clenching feet to find sufficient to grip hold of. It is clear, when the larva approaches the ends of the thinner branches and twigs (which it frequently does, having taken it on some so slight that it has been in perfectly pendent position), it would be impossible for it to travel with ease to itself in such position as to keep itself *upwards;* it therefore prefers taking the *under*-side of the twig, and passes along it in a suspended position, with the aid of its powerful feet; for it takes some little trouble to make them release their hold when once firmly fixed.

"I have known the perfect insect make its appearance out of the cocoon in the rainy season in about twenty days. A great deal depends, however, upon the temperature and the state of the atmosphere, as to the number of days that are required ere the moth takes its exit from the pupa state. The food of the larva seems to be confined to the leaves of but a few trees: I found it only upon the Bair (*Zizyphus jujuba*), both wild and cultivated kinds, and on the Badaam, or country almond (*Terminalia Catappa*). Mr. Hugon (*see* Journ. Asiat. Soc. VI. p. 32) states that it feeds, in Assam, not only on the Moonga trees, but also on the former of those mentioned above, and on the Semal (*Bombax heptaphyllum*). Dr. Helfer describes it as being taken upon and from other trees, and these are transplanted on to the Assun (*Terminalia alata*), but that they feed most commonly in the wild state on the Bair and Semal trees. Mr. Hodgson, again, has discovered that its food is the Saul tree (*Shorea robusta*); since writing which, I have been informed by a friend that in the Midnapore district the larva feeds upon the Saul also.

"Dr. Helfer (J. A. S. Beng. VI. p. 43) states 'that, according to Michael Atkinson, of Jungypore, this species cannot be domesticated, because the moths take flight before the females are fecundated.'

Dr. Helfer's opinion does not bear out the truth of this remark; and I agree with him, as he further states in continuation, that, having kept them in a musquito-curtain to prevent their escape, they were readily impregnated by the males, and deposited thousands of eggs. The moths, no doubt, both male and female, will fly away, if not confined in any manner to prevent them, particularly the males, for the sole purpose of seeking the females. I am of opinion that this silk-worm might be reared and domesticated with very little care and attention. A female, for instance, produced from the cocoon and retained captive, can, as above stated, be readily impregnated by the males, which are so eager for the intercourse, that I have at times taken as many as from ten to fifteen individuals in the course of a couple of hours—between the hours of two and four in the morning, —and that for three or four nights in succession, with the aid of the same decoy female. The moths, both male and female, live for about ten days, if they are not allowed to approach each other for the purpose of reproducing their species, and this without food of any kind, seeing that they are not provided by nature with a mouth.

"Mr. Hugon states that the natives consider there are two varieties of this species, the Bhugy and Jharroo. I do not think so. I believe them to be one and the same species. The larva sometimes—for instance, when feeding on the common Bair of the jungles—is of a very dark-green colour, precisely that of the leaf itself, and might some be considered as a different species, when compared with that has fed on the Badaam (*Terminalia Catappa*), which is of a much lighter and prettier green, with a degree of transparency at the same time, and a slight tinge of yellow pervading it. The fact of the perfect insect being devoid of any mouth, has led me to infer that the secretion, which it emits for the purpose of softening the substance of the very hard cocoon from which it has to make its escape, is voided from the abdomen; and when effected, it has to *turn itself round in the cocoon* to enable it to set to work with its two fore-feet, which are provided with extremely strong and curved claws, and thread by thread works for itself an opening through which, while yet moist its escape from the cocoon is effected, and that, too, before its wings have in any way enlarged by expansion to impede its exit. It is my intention to endeavour to ascertain this point beyond any doubt, if possible."*

* Capt. Thomas Hutton, in Journal of the Agri-Horticultural Society of India for 1856, p. 166, says, "*I doubt this*, because I have fully ascertained that the species known as *Actias Selene*, which is furnished on the shoulder of each wi

Mr. Hodgson again says:—"With regard to the distribution of the species, I apprehend that Mr. Frith is mistaken in supposing it does or can occur in climates like that of Darjeeling; for I not only never heard of the species here, but have failed in an experiment to rear it, which was carefully conducted under favourable circumstances, from cocoons got in the Saul forest by Mechis in my service, who are habituated to rearing silkworms. Gentlemen who make collections in this quarter are apt to blend whatever they procure from the Tarai forest, and lower hills, and from the mountains above them; and I conjecture that Mr. Frith's specimens of *Antheræa Paphia*, said to come from Darjeeling and Cherra Poonjee, were really obtained in the low lands beneath those places. I notice this point because of the numerous and important mistakes relative to the geographic distribution of zoological and botanical species which have thus been propagated. For example, Mr. Ogilby was led in this manner to suppose an otiñe bird (*Eupodotis bengalensis*) an inhabitant of these vast and precipitous and heavily-wooded mountains, and to name the species *Hemalayensis*, though it be really as little capable of dwelling in such a habitat, as is, I apprehend, the *Anth. Paphia*, or, more generally, any species of silkworm whatever. Silkworms abound south and east, upon or near the level of the plains; but I doubt if they pass the limits of Bengal in a north-westerly direction, even upon the plains; and, so far as I know, the Cosi river is their limit in that direction; nor do I believe they are ever found tame or wild at elevations materially above the plain level in Bengal or in Hindostan. In the *Saul* forest they may pass up towards the north-west as far as that forest extends, or to Hurdwar. But the *Saul* forest is hardly elevated at all above the level of the adjacent plain; and Cherra at 4,000 and Darjeeling at 7,000 differ *toto cœlo* in characteristic pro-

with a hard brown spine for the purpose of dividing the threads, likewise discharges a moistening liquid; and although, as in *Saturnia* [i. e. *Antheræa*] it is said to have *no mouth*, yet it is, nevertheless, *from the mouth*, or the place where it should be, that the solvent is discharged. The mouth is an *imperfect* mouth only, and is not organized for the reception of nourishment, although sufficiently perfect, it would appear, to secrete the liquid with which the threads are moistened. When the agglutinizing matter is thus dissolved, the threads are easily separated by the wing-spines, and an opening afforded for the egress of the moth. I have this season watched this process in no fewer than two hundred specimens of *Actias Selene*, and can answer for there being no mistake about the matter, a drop of the clear colourless liquid often remaining upon the tuft of hair or down on the forehead between the eyes, and which tuft appears to be used as a brush for the application of the solvent to the threads of the cocoon."

ductions, as in climate, from all places situated on the low open level of the Gangetic plains. The *Anth. Paphia* avoids the open plain, as well as the mountainous heights, and, as seems to me, is exclusively confined to primitive forests, on the level, or near it, of the plains. If, therefore, the species be found wild in Bhaugulpore, Sylhet, Chittagong, or even Chota Nagpore, it is, I apprehend, confined in all those districts to the uncultivated and forest tracts at the base of their respective hill-ranges. Further inquiry as to the food of the wild worm of the *Saul* forest confirms my prior information that this species feeds almost, if not quite, exclusively on the leaves of *Shorea robusta;* and, as that tree extends not westerly beyond Hurdwar, the habitat of Kussowlee appears to me dubious, unless there be some mistake about the species.

"The above remarks," continues Mr. Hodgson, "may seem tiresome; but those who are aware of the stress now laid on the geographic distribution of species, and of the numerous errors of fact that have crept into the subject, as relates to this quarter, from the source above adverted to, will probably deem otherwise. My attention was drawn to the subject of the distribution of silkworms in India, with reference to the notices which the classics have left us of the ancient trade of India with the West, in the Roman times particularly."

To the above Mr. Frith replies:—"Regarding the geographi[c] distribution of the species, I am almost at a loss how to sa[y] Mr. Hodgson as to the circumstance of its being found at Darjeelin[g] having received it from thence myself from a party collecting for me[.] Again, those from Cherra Poonjee were collected by persons on the spot, who are employed by me for the sole purpose of forming entomological collections."

Again Mr. Hodgson writes:—"The wide diffusion of silkworms throughout the continent of India in the plains seems clear, and is a very interesting circumstance with reference to what we find in the classics about the trade of India with Europe in the latter days of Rome, and thereafter. Mr. Taylor (Journal Asiatic Society of Bengal) supposed that the chief 'things in commerce' in those days were products of Assam only. But I had long before traced most of them as indigenous products of all India extra Gangem, from Suddiah to Hurdwar, leaving silk only as an apparent exception. It need be no longer: fine wild worms of various kinds being, it now appears, found north-west all the way to the *debouche* of the Ganges into the plains. So far, then, I agree with Mr. Frith. But I confess myself still quit[e]

a sceptic as to the alleged fact of the silkworms tenanting these mountains at elevations like that of Darjeeling."

In answer to the above remarks by Messrs. Hodgson and Frith, we quote the following by Capt. Thomas Hutton:—"The Tusseh moth (*Saturnia Paphia*), which Mr. Frith says he has procured from Mussooree and Kussowlee, a statement doubted by Mr. Hodgson, who confines the insect to the plains and base of the hills, pointing out that Collectors are in the habit of jumbling species from various localities into the same box, and calling them a collection of Himalayan species.

"Mr. Frith afterwards appeals to my letter to Mr. Westwood, as showing, as he imagines, from the mention of *Sat. Paphia*, that I had procured it at Mussooree. This is rather a bold jump to a conclusion! In reply to this part of the discussion, I incline to the side of Mr. Hodgson, whose remarks regarding the mode adopted by Collectors of specimens in general, no matter whether of birds or insects, are most correct. The practice here at Mussooree is this:—A person wishing to make a collection, either takes a native Collector into service, or purchases the specimens singly from independent Collectors who hawk about insects for sale. These native gentry, whether hired or otherwise, not being over fond of hard work, invariably *go down from Mussooree into the Doon, at the foot of the mountains*, and having there filled their boxes, return to the hills to sell them.

"The Collector, in most cases disdaining to know the difference between a moth and a butterfly, stows them all away into his boxes. These collections are then sent off, or carried off, as illustrative of the entomology of Mussooree and Landour, to which the collection bears about as close an affinity as the fauna of Southern India does to that of the Northern Provinces, species common to both being intermingled with others that exclusively belong to the one locality or the other. Thus the greater portion of species in these collections is exclusively lowland.

"Now, among the lowlanders I am inclined to include the Tusseh moth! I have collected at Simla and its neighbourhood, as well as at Mussooree; but, during my long residence at the latter station, I have only *once* in fifteen years seen the Tusseh moth, and that one specimen was a female, captured *in the Dehra Doon, near Hurdwar;* besides that, I am not altogether certain that the species is identical with the true Bengal Tusseh. In fact, I doubt the occurrence of that species in the hills, whether at Mussooree or at Kussowlee.

"Thus far the statements of Mr. Hodgson are, I think, correct; but

when he proceeds to assert that the Saul tree (*Shorea robusta*) does not extend westward of Hurdwar, he falls into an error that any traveller may correct; since there are splendid forests of Saul throughout the Dehra Doon, and even away as far west as the Jumna, if not farther.

"The Tusseh moths to which I alluded in my letter to Mr. Westwood were all sent to me in cocoon from Bhagulpore by the late Captain Don. We have here at Mussooree, and also at Simla, a species of Saturnia feeding on the common Hill Oak (*Quercus incana*), and bearing a resemblance to the Tusseh moth, though much smaller, and quite distinct;—can this be Mr. Frith's Kussowlee species?

"Mr. Frith mentions having 'inspected a very fine collection made by a gentleman at Mussooree, in which are no less than eleven species of true *Bombycidæ*, viz. nine of the genus *Saturnia*, one of *Actias*, and one of *Saturnia Mylitta*, or the true Tusseh moth.' Now, if this collection belonged to a son of the late Col. Buckley,* I can easily clear up the mystery of the Tusseh moth coming from Mussooree, since it was *one of my Bhagulpore specimens* given in exchange for something else: and I may as well point out that the collection to which I allude contained species from various parts of India, I myself having contributed insects from Mirzapore, Neemuch, and even from Afghanistan, in exchanges; while there were also a few from China! Besides which, Mr. Buckley's object being to make a collection without noting or caring for locality, the greater number of his specimens came, as usual, from the Dehra Doon. This (if I am right in my conjecture about the collection alluded to by Mr. Frith) may serve to show with what degree of suspicion any collection, *not made by a naturalist*, should be regarded by scientific men both at home and abroad; since, by taking it for granted that the collection contained only the species proper to the locality in which it is stated to have been made, the closet naturalist may be led to form the most erroneous conclusion in regard to the distribution of species. Nor is this remark to be confined to insects only, since it will equally apply to ornithological collections; so that any modern Adam, who may undertake to form a system, founded rather *upon the length and breadth of an animal's tail*, than upon the habits and manners of the species in their native haunts, and who thunders forth his dogmas from his artificial paradise of musty skins, may, and doubtless often has, put forth a host of errors for the acceptance of other *naturals* as little conversant with living species as himself.

* This collection was presented to the East-India Company's Museum in 1849.

"My own limited experience, therefore, leads me to coincide in opinion with Mr. Hodgson, and I accordingly reject the Tussch moth from the catalogue of Mussooree and mountain species, not even granting it a place at Kussowlee. Of true mountaineers we have, as far as my knowledge extends, three species of Saturnia; two others are found only in the depths of the warmest valleys,—such as *S. Atlas?* and *S. Katinka* (Westw.); the former occurring likewise in the Doon along with the Tusseh moth; thus making in all six species of *Saturnia*."

(In a foot-note, Capt. Hutton further remarks:—"In my enumeration of the species found here, I omitted one large *Saturnia*, which I once found upon a quince-tree in the Botanical Garden; the larva, when first seen, appeared to be a white cocoon on the back of a leaf, but a closer view showed me the caterpillar densely covered with long white hairs. I never procured a second specimen.").

"To these we may add one species of Actias which is, I believe, confined to the hills from 5,000 feet upwards to 7,000 feet, and perhaps higher; it occurs likewise apparently in Sylhet, as Major Jenkins long ago kindly sent me a drawing of what I take to be this species. And, lastly, we have one species of true Bombyx (*B. Huttoni*, Westw.) which occurs abundantly on the wild mulberry from the Doon, upwards, to at least 7,000 feet. Thus showing a list of known silk-spinners to the number of nine; viz. seven *Saturnia*, one *Actias*, and one *Bombyx*: more there doubtless may be, although as yet unknown to me; but I strongly suspect that some of those mentioned by Mr. Frith as coming from Mussooree and Kussowlee were, in reality, natives of other localities.

"Mr. Hodgson likewise notices the occurrence of what he and Mr. Frith pronounce to be the Arrindy moth (*S. Cynthia*); and I have it also from Mussooree, where the caterpillar feeds on the shrub Mussooree (*Coriaria nipalensis*), and from which this station derives its name. Dr. Roxburgh's figure of the caterpillar of *S. Cynthia* is, however, so thoroughly unlike those occurring here, that, notwithstanding the identity (if I may so speak) of the imago, I am unwilling to pronounce decisively as to the species until I have compared our larvæ with those of undoubted *S. Cynthia* from Bengal. Ours occurs from the foot of the hills up to 6,000 feet of elevation."

Lady Isabella Rose Gilbert figures the transformations of *Anth. Paphia*, and in her MS. Notes says, "Tusser moths are hatched twice in the year, in May and August; the larvæ go into the chrysalis state in September, remaining so till the May following; whilst those

that enter the chrysalis state in July, come out in three weeks. Many of the females lay eggs in eight or ten hours after quitting the chrysalis, others again do not till the following night, or longer. In ten days the young larvæ make their appearance, and feed on the Assun tree and the Sal Sakooa (*Shorea robusta*). In about three weeks from the time of their exclusion from the egg they attain their full size, and in eight or ten days more prepare for their transformation into the chrysalis. The caterpillar commences its operations by drawing a few leaves slightly together, as if to screen it from observation. It then spins a strong cord, composed of many threads, altogether about the thickness of a crow-quill, at the end of which it weaves the cocoon. The cocoon is so transparent for the first six-and-thirty hours, that the larva may be distinctly perceived at work in the interior; after that time the cocoon gradually acquires consistence by the continued industry of the caterpillar, and becomes quite opaque from the addition of a glutinous liquid, with which it moistens the whole. When that dries, the cocoon appears as if covered with white powder, and in the course of a couple of days becomes perfectly hard.

"The moth generally deposits its eggs within a few yards of the cocoon; these the villagers collect, and keep in their houses till the young caterpillars come forth, when they are placed on the Assun trees in the jungles, the proprietors remaining to protect them from the birds, and to bring home the cocoons when perfect. The people who rear these silkworms are of the Sontal and Bhouree castes, and practise many superstitious ceremonies while tending them in the jungles."

917. *ANTHERÆA FRITHI, Moore.*

Antheræa Frithi, *Moore, P. Z. S.* (1859), *p.* , *pl.* LXII. *fig.* 1.

a. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

Antheræa Frithi, n. sp. — Male, yellowish-ferruginous, the disc suffused with patches of darker ferruginous, and the exterior margin and about the base greyish-ferruginous; *fore-wing* with the costal band grey, the submarginal dark line evenly undulated, and parallel with it and before the ocellus are two deeply-undulated lines, the inner spaces between which are suffused with yellow, a large prominent apical patch and space within the cell yellow; *hind-wing* with

the submarginal line deeply undulated, with two parallel deeply undulated inner lines, the spaces between which are suffused with yellow, the inner line extending round the ocellus, and joining the sub-basal line; ocelli small, similar to those in *Anth. Paphia*; antennæ yellowish; frontal band grey; body yellowish-ferruginous. Expanse $5\frac{1}{8}$ in.

918. *ANTHERÆA HELFERI, Moore.*

Antheræa Helferi, *Moore, P. Z. S.* (1859), *p.* , *pl.* LXI. *fig.* 2.

a. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

Antheræa Helferi, n. sp. — Male, yellowish-ferruginous, with a vinaceous tinge basally; *fore-wing* with the grey costal band, three dark ferruginous pink-margined lines,—the first sub-basal, transverse, and curved; the second within and near the base of the cell, oblique; the third above and joining the ocellus; the ocellus without a vitreous spot, which is replaced by a short yellow-margined line; a double submarginal indistinct undulated line, its apical end with a blackish spot, an indistinct suffused inner line close to the ocellus, and a dark marginal line of lunulated streaks: *hind-wing* with a dark marginal lunulated line, two darker submarginal deeply-undulated lines, the inner line extending round the ocellus to the sub-basal line; the ocellus with the black outer line terminating at its upper end in an oval spot, without a central vitreous spot, which is replaced by a narrow yellow line; antennæ brown; frontal band grey; body yellowish-ferruginous. Expanse 6 in.

919. *ANTHERÆA ROYLEI, Moore.*

Antheræa Roylei, *Moore, P. Z. S.* (1859), *p.* , *pl.* LXI. *fig.* 1.

a. b. ♂ ♀. N. India. Presented by Col. Buckley.

c. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

Antheræa Roylei, n. sp.—Dull buff-colour; *fore-wing* with the costal band brownish-grey, the sub-basal lines and the oblique submarginal line indistinct, greyish; *hind-wing* with the submarginal line indistinct; ocellus of both fore and hind-wings ill-defined, buff-colour within, with a minute vitreous spot. Female with the wings somewhat brighter-

coloured exteriorly, the submarginal line of both wings more distinct; ocelli more distinct; frontal band brownish-grey; antennæ brownish; body buff-colour. Expanse of male 5¾ in., female 6½ in.

920. *ANTHERÆA ASSAMA, Helfer Sp.*

Saturnia assamensis, *Helfer, Journ. Asiatic Society of Bengal*, VI. *p.* 43 (1837).

Saturnia assama, *Westwood, Cabinet Orient. Ent. p.* 41, *pl.* 20, *f.* 2.

Antheræa assama, *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1249.

Mooga or Moonga of the Assamese, *Hugon and Helfer.*

Moonga, *Royle, Report of Paris Exhib. pt.* III. *p.* 216.

a. Assam. Mr. Hugon's Drawing.

The larva and cocoon of *Anth. Assama* are figured on Plate XIX., figs. 2, 2*a*, copied from Mr. Hugon's original figure in vol. VI. of the Journal of the Asiatic Society of Bengal, published in 1837.

From Mr. Hugon's remarks on the silks and silkworms of Assam, in the work above cited, we extract the following:—"Although the *Mooga* moth can be reared in houses, it is fed and thrives best in the open air and on the trees. The trees which afford it food are known in Assam by the following names; viz.—1. Addakoory. 2. Champa (*Michelia sp. ?*). 3. Soom. 4. Kontooloa. 5. Digluttee (*Tetranthera diglottica*, Ham.). 6. Pattee Shoonda (*Laurus obtusifolia*, Roxb.). 7. Sonhalloo (*Tetranthera macrophylla*, Roxb.). There are generally five breeds of *Mooga* worms in the year. On being hatched, the worm appears composed of alternate black and yellow rings; as it increases in size, the former are distinguished as six black moles, in regular lines, on each of the twelve rings which form its body. The colours gradually alter as it progresses, that of the body becoming lighter, the moles sky-blue, then red, with a bright gold-coloured ring round each. When full grown, the worm is above four inches long; its colours are most brilliant and varied in shades; the body appears transparent, and is of a very bright yellow or dark-green colour, with a brown and a yellow streak at the sides; in the latter the breathing-holes are distinguished by a black speck; the moles are red, and have each four sharp prickles and a few black hairs; the head and claws are of a light brown, the holders green, and covered with short black hair; the last pair have a black ring on the outside. Cocoon fawn-colour."

921. *ANTHERÆA LARISSA, Westwood Sp.*

♂ Saturnia Larissa, *Westwood, Cabinet Orient. Ent. p.* 49, *pl.* 24, *f.* 1 (1847).

Antheræa Larissa, *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1250.

a. ♀. Java. From Dr. Horsfield's Collection.

922. *ANTHERÆA SIMLA, Westwood Sp.*

Saturnia Simla, *Westwood, Cabinet Orient. Ent. p.* 41, *pl.* 20, *f.* 1 (1847).

Antheræa Simla, *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1249.

a. b. ♂ ♀. N. India. Presented by Col. Buckley.

c. ♀. N. India. Presented by General Hearsey.

d. ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

Genus LOEPA, *Moore.*

ANTHERÆA (group III.), *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1250.

923. *LOEPA KATINKA, Westwood Sp.*

Saturnia Katinka, *Westwood, Cabinet Orient. Ent. p.* 25, *pl.* 12, *f.* 2 (1847).

Antheræa Katinka, *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1251.

a. b. c. d. e. f. ♂ ♀, and pupa. Java. From Dr. Horsfield's Collection.

The larva and cocoon of *Loepa Katinka* are figured on Plate XX., figs. 1, 1*a*, from Java. "Feeds on the *Galing* (*Cissus sp.*), the *Girang* (*Leea sp.*). December to February. Abundant." — (Horsfield, MS.)

Genus ACTIAS, *Leach.*

ACTIAS, *Leach, Zool. Misc.* II. *p.* 25 (1815). *Macleay.*
TROPÆA, *Hübner, Verz. bek. Schmett. p.* 152 (1816). *Walker, List Lep. Het. Brit. Mus. pt.* VI. *p.* 1259.
PLECTROPTERON, *Hutton, Trans. Ent. Soc. Lond.* V. *p.* 45 (1847).
PHALÆNA-ATTACUS, *pt. Linnæus.*
BOMBYX, *pt. Fabricius.*

924. *ACTIAS SELENE, Macleay.*

Actias Selene, *Macleay, Leach's Zool. Misc.* II. *p.* 26, *pl.* 70 (1815). *Hutton, P. Z. S.* (1856), *p.* 5.

Tropæa Selene, *Hübner, Verz. bek. Schmett. p.* 158. *Walker, List Lep. Het. Brit. Mus. pt.* VI. *p.* 1262.

Plectropteron Selene, *Hutton, Trans. Ent. Soc.* V. *p.* 85.

Plectropteron Dianæ, *Hutton, Trans. Ent. Soc.* V. *p.* 45 (1847); *Ann. Nat. Hist.* XVII. *p.* 60.

Phalæna-Attacus Luna, *Cramer, Pap. Exot.* I. *pl.* 31, *f. A. B.* (*nec. Drury*).

a. b. c. ♂ ♀. N. India. Presented by Col. Buckley.
d. e. ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

The larva of *Actias Selene* is figured on Plate XIX., figs. 3, 3*a*,—fig. 3 the young larva (fourth stage) copied from the original drawing made by Lady Isabella Rose Gilbert; fig. 3*a* (adult larva) is copied from Capt. Hutton's figure in the Trans. Ent. Soc. London, vol. V. pl. V.

Capt. Thomas Hutton has communicated* the following interesting remarks respecting this moth:—"A specimen of this splendid moth was brought to me on the 13th April, 1842, by a boy, who had captured it in a deep and warmly-sheltered glen at Mussooree. The specimen was a female, and was found clinging to the branches of a tree, or rather shrub, very similar to the Tartarian honeysuckle; it was accompanied by a male (*in coitu*), which effected its escape. As the specimen was much injured by her rough captor, I suffered her to live and deposit her eggs, which she did on the evening of the same

* Trans. Ent. Soc. Lond. IV. p. 221; id. V. pp. 45, 85.

day, to the number of thirty-two, each being of the size of a large mustard-seed, and of a mottled brownish colour. During the whole of the succeeding day she remained perfectly stationary, clinging to the window-frame, but in the evening deposited eighty-four eggs, and on the following evenings she again deposited as follows:—on the 15th, thirty-eight eggs; on the 16th, twenty-one eggs; on the 17th, sixteen eggs; on the 18th, twenty-one eggs; on the 19th, fourteen eggs; on the 20th, fourteen eggs; and on the 21st, seven eggs—amounting in all to 246 eggs,—and she then died. On the 28th April I received a male and female from the same place, and in the evening the female deposited eighty-nine eggs, and continued each night to increase the number until she had deposited 300 eggs, when she died.

"On the 30th April, or eighteen days from the time of deposition, the first batch of eggs began to hatch. The newly-born larva is about three lines in length, hairy, and of a pale rufous-red, with a single black band across the middle of the body, and a small black transverse mark on the anterior segment; along the back are two rows of small tubercles, and another along each side, from each of which spring a few short hairs, the base of which forms a small black dot; there is also an anal tubercle, larger than the others, and placed between the two last tubercles of the dorsal rows; the head is black.

"I was now exceedingly puzzled to find out the proper food, and, having unsuccessfully tried several kinds, at last gave them the leaves of our common hill oak (an Ilex), of which they ate sparingly, and without appetite. This was evidently not the proper food; and, although they continued to eat it, they did not thrive, but died in such numbers that I had at last only five larvæ left out of 546; and even these I was in daily expectation of losing, when, by a lucky chance, on the 30th of June, I discovered a single larva in the forest feeding on a tree known to the natives as the *Munsooree*.*

"Branches of this tree were now substituted for the oak, and from thenceforward the larvæ ate greedily, and increased rapidly in size. The first moult commenced when six days old, and this occupied three days, so that at the end of nine days the larva appeared in its second stage. The black transverse band upon the body had disappeared, but the head still remained of that colour, and the rest of the body was hairy and rufous, the tubercles being black on the summit, and more prominent; pro-legs brown.

* *Coriaria nipalensis.*

"The period between each change was about ten days in some specimens, but varied in others between that and shorter periods, probably depending in a great measure upon the quantity of nourishment obtained from the branches with which they were daily supplied.

"In the third stage, the caterpillar appeared of a bright rufous colour, the black dots or tubercles being larger and more prominent; but there were no black bands.

"In the *fourth* stage the change was still more remarkable, for the caterpillar now appeared of a beautiful apple-green, each tubercle headed with bright orange, except the *four* which spring from the second and third segments, which are ringed with black, and crowned with pale yellow; and the *anal* and *two posterior* tubercles, which are green throughout. From each tubercle springs a small tuft of hair, the centre one of each being longer than the others; the head and pro-legs brown; along each side is a line which is red above and yellow below, and the spiracles are red; there is a line of very small yellow dots along each side between the rows of tubercles.

"In the *fifth* stage the colours are the same, as they are also in the sixth and seventh stages; but the caterpillar increases rapidly in size, and is most beautiful and delicate in appearance, with a semi-transparency of hue which makes it look something like waxwork.

"One of these commenced spinning its cocoon on the 17th of July, being then about forty-six or forty-seven days old, and the remainder after the interval of a day or two; that is, on the 19th, 20th, and 25th July. The cocoon is formed of coarse brown silken threads, closely interwoven, and of an ovate form; it is inclosed among the leaves of the tree, which are, in fact, glued closely round it. It is hard, and not furnished interiorly with a soft silken bed, the chrysalis lying within a hard and hollow chamber.

"The chrysalis remained thus until the 14th August, when the one which had turned on the 17th July produced a perfect female, after a period of twenty-nine days. Another, which had turned on the 19th July, came forth a male on the 16th August, showing the time to be pretty uniform. A large caterpillar, however, which I found in the forest on the 16th July, turned to a chrysalis on the 24th of that month; but, instead of coming forth in the autumn, it remained in the chrysalis state throughout the winter—as did some others,—coming out in the following summer; namely, on the 11th, 14th, and 18th of June.

"The caterpillar feeds upon several trees common on these hills. The most common food appears to be the Munsooree, a shrub which

is so common as to have given rise, I believe, to the name of this settlement; namely, 'Munsoory,' or, more commonly among Europeans, 'Mussooree.' I do not know the botanical name of this plant."*—(Trans. Ent. Soc. IV. p. 221.)

"I have again reared specimens of *A. Selene*, and observed attentively the method by which it *cuts* its way through the cocoon, by means of the instrument which I have named 'the wing-spur,' or 'spine.'

"The point of this is thrust through the cocoon, and the cutting edge drawn across the fibres, until severed sufficiently to enable the moth to come forth."—(Trans. Ent. Soc. V. p. 85.)

"Before proceeding to separate the threads of the cocoon by means of the wing-spines, I have ascertained that the moth ejects from *the mouth* a few drops of a clear, colourless fluid, with which the gum is dissolved; and it appears to use the tuft of down on the front, between the eyes, as a brush for the application of the solvent."—(P. Z. S. (1856), p. 5.)

Capt. Hutton since remarks (Journal of the Agri-Horticultural Society of India, IX. pp. 167-9, 1856): "I have this season watched the process of the escape of this moth (*A. Selene*) from the cocoon in no fewer than two hundred specimens, and can answer for there being no mistake in the matter, a drop of the clear, colourless liquid often remaining upon the tuft of hair, or down, on the forehead between the eyes, and which tuft appears to be used as a brush for the application of the solvent to the threads of the cocoon.

"I have this year (1855) reared a number of the caterpillars for the purpose of ascertaining the value of the silk, but am sorry to say have failed in my attempts to unwind the silk from the cocoons. With some difficulty I managed to procure a supply of eggs from the moths which came forth in October, and had intended sending them to Europe, when, to my regret and surprise, they began to hatch on the 4th of November, and are still coming forth daily (10th). They are at present thriving on the shrub *Coriaria nipalensis*, growing in the open air; but whether they will be able to spin up again before the frosts set in, remains yet to be seen. These caterpillars feed naturally on *Coriaria nipalensis*, *Andromeda ovalifolia*, the walnut, and I think also upon *Carpinus bimana*. The first-named shrub would probably grow well and rapidly in some parts of Europe, and so furnish nourishment both for the larvæ of *Act. Selene*, if found

* *Coriaria nipalensis.*

worth introducing, and also of *S. Cynthia*, which seems to be acclimated in Italy.

"This species, I believe, is confined to the hills from 5,000 feet upward to 7,000 feet, and perhaps higher; it occurs also in Sylhet, as Major Jenkins kindly sent me a drawing of what I take to be this species."

The transformations of *Actias Selene* are also figured in vol. III. pl. 84, of the original drawings made by Lady Isabella Rose Gilbert, the larva being represented in three stages. The cocoon is attached to and nearly covered by a couple of leaves.

Genus SATURNIA, *Schrank.*

SATURNIA, *Schrank, Faun. Boica*, II. *pt.* II. *p.* 149 (1802). *Walker, List Lep. Het. Brit. Mus. pt.* VI. *p.* 1268.
PAVONIA, *Hübner, Verz. bek. Schmett. p.* 157 (1816).
PHALÆNA-ATTACUS, *pt. Linnæus.*
BOMBYX, *pt. Fabricius.*

925. *SATURNIA PYRETORUM, Boisduval.*

Saturnia Pyretorum, *Boisduval, MS. Westwood, Cabinet Orient. Ent. p.* 49, *pl.* 24, *f.* 2 (1847). *Walker, List Lep. Het. Brit. Mus. pt.* VI. *p.* 1273.

a. ♂. China. Presented by Colonel Buckley.

926. *SATURNIA GROTEI, Moore.*

Saturnia Grotei, *Moore, P. Z. S.* (1859), *p.* , *pl.* LXII. *fig.* 2.

a. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

Saturnia Grotei, n. sp.—*Fore-wing* pale buff-colour, brownish along the costa and about the apex, and thickly irrorated with black and brown scales to beyond the middle; a large black-margined marrone-coloured ocellus, containing a narrow transverse white lunule; a submarginal black band, bounded inwardly with a double zigzag pale-margined black line, which extends to near the apex, where the space contains a marrone-coloured patch and a black spot, both of which are irrorated with white scales; exterior margin dull buff, with a row of narrow oval marrone-brown spots: *hind-wing* brownish at the base and along abdominal margin; the disc pink, containing a similar but smaller ocellus as the fore-wing; a submarginal black band, bounded

inwardly by two undulated black lines, the inner line extending round the ocellus; exterior margin dull buff, with a row of narrow oval marrone-brown spots; thorax crossed by a pale buff line. Expanse nearly 3 in.

Genus ATTACUS, *Linnæus.*

PHALÆNA-ATTACUS, *Linnæus, S. N.* I. II. *p.* 808 (1767).
ATTACUS, *Hübner, Verz. bek. Schmett. p.* 155. *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1200.
HYOLOPHORA, *pt. Duncan, Nat. Libr.* VII.
ATTACUS, *pt. Latreille.*

927. *ATTACUS ATLAS, Linnæus.*

Phalæna-Attacus Atlas, *Linnæus, Syst. Nat.* I. II. *p.* 808 (1767); *Mus. Lud. Ulr. p.* 366. *Cramer, Pap. Exot.* IV. *pp.* 180, 183, *pl.* 381, *f. C.; pl.* 382, *f. A.*

Attacus Atlas, *Hübner, Verz. bek. Schmett. p.* 156. *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1218.

Bombyx Atlas, *Fabricius, Syst. Ent. p.* 566; *Spec. Ins.* II. *p.* 167; *Mant. Ins.* II. *p.* 108; *Ent. Syst.* III. I. *p.* 407; *Olivier, Enc. Méth. Ins.* V. *p.* 24, *pl.* 69, *f.* 1.

var. Phalæna-Attacus Atlas, *Cramer, Pap. Exot.* I. *p.* 13, *pl.* 9, *f. A.*

var. Saturnia Silhetica, *Helfer, Journ. Asiat. Soc. Bengal,* VI. *p.* 41 (1837).

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.
e. f. ♂ ♀. Madras. Presented by S. N. Ward, Esq.
g. h. ♂ ♀. Silhet. Presented by Col. Buckley.
i. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

The larva and cocoon of *Attacus Atlas* are figured on Plate XX., figs. 2, 2*a*, from Java. "Feeds on the *Melokka* (*Phyllanthus Emblica*), *Kupu-gaja*, &c. December to January. Rather common."—(Horsfield, MS.)

From the MS. Notes made by Lady Isabella Rose Gilbert in 1825, we extract the following:—"A specimen (female) of this magnificent moth was caught on the 4th September. On the following morning she laid several pink-and-white eggs. On the 15th the young cater-

pillars were hatched. Being uncertain what plant they fed on, I placed them on slips of different trees; viz., apple, peach, plum, &c. The young caterpillars were black, with numerous white spines; as they grew larger, and changed their skins, the spines became covered with a kind of white powder, giving them a very delicate appearance; added to which, the ground-colour of the body, since the first few days after they were hatched, had become a light green. They always ate their skins after casting them. Day and night they devoured the leaves, and those on the apple-branch grew to an enormous size; and, on the 12th October, one of these began to prepare for its transformation by bending back a large leaf, and inclosing itself in a web, which it completed on the 13th. During the three preceding days it had considerably diminished in size: this I have observed to be the case with many larvæ prior to their change. On the 22nd June following the moth came out."

928. *ATTACUS EDWARDSI, White.*

Attacus Edwardsii, *White, P. Z. S.* (1859), *p.* , *pl.*

a. ♀. Darjeeling. From Messrs. Schlagintweit's Collection.

This species is distinguished from *Att. Atlas* "by its intensely dark colour, especially on that band bounded by angled and curved, white, defined lines, in which the fenestræ occur. This band is of a dark blackish-brown, passing into a rich chestnut-brown above the fenestræ of the upper wings and on their posterior margin; the inner margin of the lower wings is of this red-brown also; the fenestræ are not bounded by a margin of black scales as in *Att. Atlas*, but by ochreous-yellow squamulation; the part of the fenestræ towards the base of the wings, which in *Att. Atlas* is curved convexly, is in *Att. Edwardsii* straight; the fenestra is longer, the white lines on the wings, breaking up the brown so beautifully, are wider, and that on the lower wing is less scalloped than in *Att. Atlas;* the margin of the lower wing on the outside has two much-waved lines, the inner is yellow, with thirteen or fourteen undulations, continued on the upper wing till it leaves off where the wing is dilated into the lobe, which gives the wing its hooked-like character; the lower line is brownish-black, and is straight, except in six places, where the black runs up the nerves triangularly to a point, and meets two of the yellow lobes, which are conjugate."

929. *ATTACUS CYNTHIA, Drury Sp.*

Phalæna-Attacus Cynthia, *Drury, Exot. Ins.* II. *pl.* 6, *f.* 2; *App. p.* ii. (1773). *Cramer, Pap. Exot.* I. *p.* 62, *pl.* 39, *f. A.*

Attacus Cynthia, *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1220.

Phalæna Cynthia, *Roxburgh, Trans. Linn. Soc.* VII. *p.* 42, *pl.* 3. *Buchanan, Descr. Dinajpur, p.* 214. *Helfer, Journ. Asiat. Soc. Beng.* VI. *p.* 45 (1837).

Bombyx Cynthia, *Olivier, Enc. Méth. Ins.* V. *p.* 30.

Samia Cynthia, *Hübner, Verz. bek. Schmett. p.* 156.

Saturnia Cynthia, *Westwood, ed. Drury's Ins.* II. *p.* 12, *pl.* 6, *f.* 2.

Saturnia Arrundi, *Royle, Reports on the Paris Universal Exhibition, pt.* III. *p.* 216 (1856).

The Arrindy or Arrundi Silkworm Moth, *Roxburgh. Helfer.*

Eria of Assam, *Hugon, J. A. S. Beng.* VI. *p.* 21.

Eri or Eria of Assam, *Royle.*

a. b. ♂ ♀. N. India. Presented by Col. Buckley.

c. d. ♂ ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

e. f. ♂ ♀. Ladakh. Presented by Capt. Strachey.

g. ♀. Hong-Kong. Presented by W. H. Lloyd, Esq.

h. i. j. ♂ ♀. Java. From Dr. Horsfield's Collection.

The larva and cocoon of the Eria are figured on Plate XX., figs. 3, 3*a*, copied from Dr. Roxburgh's figure in Trans. Linn. Soc. VII. pl. 3.

930. *ATTACUS RICINI, Boisduval Sp.*

Saturnia Ricini, *Boisduval, Ann. Soc. Entom. France, 3rd ser.* II. *p.* 755 (1854).

Saturnia lunula, *MS. Cabinet British Museum.*

Attacus lunula, *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1221 (1855).

a. ♂. (*Att. lunula,* Walk.) N. India. From the Asiatic Society of Bengal.

b. ♀. (Ditto.) Assam. Presented by Col. Buckley.

c. d. (*Sat. Ricini,* Boisd.) From M. Becker's Collection.

"The insect," says Dr. Roxburgh, "known to the Hindoos by the name of *Arindy* in some parts, in others *Arundi*, appears to be peculiar to the interior parts of Bengal; and, so far as I can learn, to two districts only, viz., Dinagpore and Rungpore, where the natives breed and rear it in a domestic state, as they do the common silkworm. The food of the caterpillar consists entirely of the leaves of the common *Ricinus*, or *Palma Christi*, which the natives of these districts call *Arrindy* (hence the name of the insect), and is abundantly reared over every part of India, on account of the oil obtained from the seed.

"Eggs pure white, which hatch in from ten to fifteen days. The larvæ arrive at their full size, which is from two and a half to three inches, in about one month, during which they cast their skin three or four times. They are very voracious, devouring daily many times their own weight of food. The cocoon, or covering thereof, is white or yellowish, of a very soft, delicate texture, in general about two inches long and three in circumference, pointed at each end; in it the animal remains dormant from ten to twenty days, according to the temperature. The perfect insect lives from four to eight days, remaining perfectly contented in its chamber, seldom attempting to fly away.

"Mr. Atkinson remarks that 'they are reared in a domestic state, and entirely feed on the leaves of the Palma Christi plant. Their cocoons are remarkably soft and white, or yellowish; the filament so exceedingly delicate, as to render it impracticable to wind off the silk: it is therefore spun like cotton. The yarn thus manufactured is wove into a coarse kind of white cloth, of a seemingly loose texture, but of incredible durability, the life of one person being seldom sufficient to wear out a garment made of it.'"—(Trans. Linn. Soc. VII. p. 42, 1804.)

The caterpillar of the Eria, according to Mr. Hugon (*see* J. A. S. Beng. VI. pp. 23, 24), "in a domesticated state at Assam, is, when young, about a quarter of an inch in length, and nearly black; as it increases in size, it becomes of an orange-colour, with six black spots on each of the segments; the head and legs are black; after the

second moulting, they change to an orange-colour, that of the body gradually becomes lighter, in some approaching to white, in others to green, and the black spots gradually become the colour of the body; after the fourth and last moulting, the colour is a dirty white, or a dark green: the white caterpillars invariably spin red silk, the green ones white. On attaining its full size, the worm is about three and a half inches long; its colours are uniform and dull; the breathing-holes are marked by a black mark; the moles have become the colour of the body, and have increased to long fleshy points, without the sharp prickles the Moonga worm has; the body has a few short hairs, hardly perceptible.

"In four days the cocoon is completed. The hill tribes settled in the plains are very fond of eating the chrysalis."

"The Arrindy Arria, or Eria silkworm is reared over a great part of Hindostan, but more especially in the districts of Dinajpur and Rangpur, in houses in a domesticated state, and feeds chiefly on the leaves of *Ricinus communis*. The silk of this species has hitherto never been wound off, but people were obliged to spin it like cotton.

"It is so productive as to give sometimes twelve broods of spun silk in the course of the year. The worm grows rapidly, and offers no difficulty whatever for an extensive speculation."—(Dr. Helfer, Journ. As. Soc. Beng. (1837), p. 45.)

In the Journal of the Agricultural and Horticultural Society of India, vol. II. part II. p. 61, is an account of the successful experiment of winding off the silk from the cocoon of the Eria worm.

Some further accounts also appear in the Transactions of the Entomological Society of London for December, 1854, and reprinted in the Agricultural and Horticultural Society's Journal of India, vol. IX. pt. II. p. 29.

931. *ATTACUS GUERINI, Moore.*

Attacus Guerini, *Moore, P. Z. S.* (1859), *p.* , *pl.* LXII. *fig.* 3.

a. b. c. Bengal. From the Asiatic Society of Bengal.

Attacus Guerini, n. sp.? — Distinguished from *A. Cynthia* and *A. Ricini* by its smaller size and darker colour, the *fore-wings* having the two transverse white lines joined together about the middle, the junction forming a somewhat rounded spot, and by its being *without* the lunate vitreous streak, which is replaced by a small yellowish

spot, which in some specimens is obsolete; *hind-wing* with a small rounded, yellowish, slightly-vitreous spot. Expanse from 3½ in. to 3¾ in.

Genus BRAHMÆA, *Walker.*

BRAHMÆA, *Walker, List Lep. Het. Brit. Mus. pt.* VI. *p.* 1315 (1855).
BOMBYX, *pt. Fabricius.*

932. *BRAHMÆA CERTHIA, Fabricius Sp.*

Bombyx Certhia, *Fabricius, Ent. Syst.* III. I. *p.* 412 (1797). *Petiver, Gazoph. pl.* 18, *f.* 3.

Brahmæa Certhia, *Walker, List Lep. Het. Brit. Mus. pt.* VI. *p.* 1316.

Bombyx Wallichii, *J. E. Gray, Zool. Misc. p.* 39 (1832).

Bombyx spectabilis, *Hope, Trans. Linn. Soc.* XVIII. *p.* 443, *pl.* 31, *f.* 3 (1841).

a. ♂. Nepal. Presented by the Trustees of the British Museum.

Stirps VI.—Larvæ LIMACIFORMES.

Larva limaciform, oblong, convex above, provided with fleshy protuberances of various size, arranged along the back, rarely more lengthened anteriorly and posteriorly, and crested with numerous short rigid hairs. In some cases these protuberances are limited to the sides, in others the surface is entirely naked. Underneath plain, with rudimentary legs.

Metamorphosis :—Cocoon oval or round, of a firm texture throughout, sometimes with a slight silken outer covering, the imago escaping through a well-defined circular opening representing an operculum. Generally attached to leaves.

The perfect insect has somewhat short and broad wings; flies by day. Antennæ simple, or nearly so, in both sexes, or bipectinated to about one-third the length, or moderately bipectinated throughout in the male, and simple in the female; proboscis very short, invisible or obsolete; body stout.

Bombyces (*Larva* V. Limaciformes), *Denis et Schiffermüller, Wien. Verz. p.* 65 (1776).

Bombycidæ (*Stirps* II. *pt.*), *Horsfield, Catal. Lep. Mus. E.I.C. pp.* 24, 27 (1828).

Arctiidæ, *pt. Stephens, Ill. Brit. Ins.* II. *p.* 54 (1829); id. *Catal. Brit. Lep. Brit. Mus. p.* 49 (1850). *Westwood, Intr.* II. *p.* 384 (1840).

Cocliopodes, *Boisduval, Ind. Méth. p.* 81 (1840).

Limacodites, *Blanchard, Hist. Nat. des Ins.* II. *p.* 364 (1845).

Limacodidæ, *Duponchel, Catal. Méth. Eur. Lép. p.* 84 (1846).

Limacodidi, *Stephens, Catal. Brit. Lep. Brit. Mus. p.* 57 (1850).

Cochliopodidæ, *Stainton, Manual Brit. Lep. pp.* 108, 168 (1856).

Platypterycides, *pt. Blanchard.*

Notodontidæ, *pt. Walker.*

Cossina, *pt. Herr. Schäffer, Lep. Exot. Spec. Nov. p.* 58 (1858).

Genus SETORA, *Walker*.

SETORA, *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1069 (1855).

933. *SETORA NITENS, Walker.*

♀ Setora nitens, *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1069 (1855).

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

The larva and cocoon of *Setora nitens* are figured on Plate XXI., figs. 1, 1*a*, 1*b*, from Java.

Genus SCOPELODES, *Westwood*.

SCOPELODES, *Westwood, Duncan's Nat. Libr.* XXXVII. *p.* 222 (1841). *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1104.

DALCERA, *pt. Herr. Schäffer, Lep. Exot. Spec. Nov. ser.* I. *f.* 509 (1856).

934. *SCOPELODES PALPALIS, Walker.*

Scopelodes palpalis, *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1105 (1855).

Dalcera palpigera, *Herr. Schäffer, Lep. Exot. Spec. Nov. ser.* I. *f.* 509 (1856).

a. b. c. d. e. f. ♂ ♀. Java. From Dr. Horsfield's Collection.

The larva and cocoon of *Scop. palpalis* are figured on Plate XXI., figs. 2, 2*a*, from Java. "Feeds on the *Jambu Bol* (*Eugenia sp.*——). December to April. Abundant."—(Horsfield, MS.)

Genus MIRESSA, *Walker*.

MIRESSA, *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1123 (1855).
NYSSIA, *pt. Herr. Schäffer.*

935. *MIRESSA ALBIPUNCTA, Herr. Schäffer Sp.*

Nyssia albipuncta, *Herr. Schäffer, Lep. Exot. Spec. Nov. ser.* I. *f.* 179 (1854).

Miressa albipuncta, *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1123.

a. N. India. Presented by General Hearsey.

b. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

936. *MIRESSA INORNATA, Walker.*

Miressa inornata, *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1125 (1855).

a. b. ♂ ♀. Java. From Dr. Horsfield's Collection.

937. *MIRESSA NIVAHA, Moore.*

Miressa Nivaha, n. sp.—Dark ferruginous-brown; *fore-wing* with a narrow discal and marginal transverse silvery line; *hind-wing* pale ferruginous; sides of abdomen pale ferruginous. Expanse 1¼ in.

a. b. ♂ ♀. Canara. Presented by S. N. Ward, Esq.

Genus CHILENA, *Walker.*

CHILENA, *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1070 (1855).

938. *CHILENA SIMILIS, Walker.*

Chilena similis, *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1071 (1855).

a. b. ♂ ♀. N. India. Presented by General Hearsey.

Genus PARASA, *Moore.*

NEÆRA,* *Herr. Schäffer, Lep. Exot. Spec. Nov. ser.* I. *f.* 176 (1854). *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1138 (1855).

939. *PARASA LEPIDA, Cramer Sp.*

Phalæna-Noctua lepida, *Cramer, Pap. Exot.* II. *p.* 50, *pl.* 130, *f. E.* (1779).

Limacodes graciosa, *Westwood, Cab. Orient. Ent. p.* 50, *pl.* 24, *f.* 4 (1847).

Neæra graciosa, *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1139 (1855).

a. b. c. ♂ ♀, and pupa. Bombay. Presented by Ezra T. Downes, Esq.

d. ♀. Bengal. Presented by Col. Buckley.

The larvæ, cocoon, and details of larva of *Parasa lepida* are figured on Plate XXI., figs. 3, 3*a*, 3*b*, 3*c*, 3*d*; figs. 3 and 3*b* copied from the

* Occupied in 1830 for a genus of *Diptera*.

original drawings of A. Grote, Esq.; and figs. 3*a*, 3*c*, 3*d* from those of Capt. Mortimer Slater.

Mr. Grote's larvæ were "found on *Eugenia* and *Mangifera*, and went into the pupa state in October, 1855, the imago emerging in June, 1856."

Capt. Slater informs us, in his MS., "Larva found at Dinapore, October 2, 1848. Feeds on the Pipul (*Ficus religiosa*) and almond-tree. The mask which conceals the head (*vide* plate, figs. 3*c*, 3*d*) when at rest is curious. It is prehensile, and clasps the edge of the leaf while the head underneath is eating its way along. Instead of pro-legs, it has eight pairs of soft, flexible protuberances, which by a peristaltic kind of motion are made to serve as pro-legs, and by means of them the animal clings particularly strong against the surface even of glass."

Dr. Templeton (in a letter written to Sir James E. Tennant, November 19, 1857) says that "the caterpillar (of *P. lepida*) stings with such horrible pain, that I sat in the room almost sick with it, and unable to keep the tears from running down my cheeks for more than two hours, applying ammonia all the time. The caterpillar feeds on the Jasmine-flowering Carissa, in gardens."

940. *PARASA MEDIA, Walker Sp.*

Neæra media, *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1140 (1855).

a. b. c. d. e. f. ♂ ♀, and pupa. Java. From Dr. Horsfield's Collection.

The larva, pupa, and cocoon of *Parasa media* are figured on Plate XXI., figs. 4, 4*a*, from Java. "Feeds on the *Juet Jambu* (*Eugenia sp.*——). February, March, April. Common." — (Horsfield, MS.)

941. *PARASA DARMA, Moore* (*Plate* XI*a*, *fig.* 7).

Parasa Darma, n. sp.—Dark ferruginous-brown; *fore-wing* with a large, broad, curved, longitudinal grass-green patch, which is narrowly bordered with white; space along the exterior margin with a silvery tinge; a marginal line narrow, black: *hind-wing* pale yellow at the base, with a broad marginal brown band; head and thorax with a green lateral spot; abdomen pale brown. Expanse 1¼ in.

a. ♀. Java. From Dr. Horsfield's Collection.

942. *PARASA BICOLOR, Walker Sp.*

Neæra bicolor, *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1142 (1855).

a. and pupa. Java. From Dr. Horsfield's Collection.

The larva and cocoon of *Parasa bicolor* are figured on Plate XXI., figs. 5, 5*a*, from Java. "Feeds on the *Pring* (*Bambusa Arundo*). March and April."—(Horsfield, MS.)

943. *PARASA BISURA, Moore* (*Plate* XI*a. fig.* 11).

Parasa Bisura, n. sp.—Dark brown; *fore-wing* with a transverse subapical darker line, with pale borders; some black zigzag discal marks. Expanse $\frac{7}{8}$ in.

a. b. c. d. ♂ ♀, and pupa. Java. From Dr. Horsfield's Collection.

The larva and cocoon of *Parasa Bisura* are figured on Plate XXI., figs. 6, 6*a*, from Java. "Feeds on the *Jarak* (*Ricinus sp.* ——). April."—(Horsfield, MS.)

944. *PARASA UNICOLOR, Moore.*

Parasa unicolor, n. sp.—Colour of a uniform pale brownish-buff, with a narrow paler exterior margin. Expanse $1\frac{1}{2}$ in.

a. N. India. Mr. Grote's Drawing.

The larva and cocoon of *Parasa unicolor* are figured on Plate XXI., figs. 7, 7*a*, copied from the original drawing in the collection of A. Grote, Esq. "Feeds on *Ochna squarrosa*."—(Grote, MS.)

945. *PARASA NARARIA, Moore.*

Parasa Nararia, n. sp.—Female, colour light brown; *fore-wing* with a transverse slightly-curved narrow dark line before the exterior margin. Expanse $\frac{7}{8}$ in.

a. ♀. N. India. Mr. Grote's Drawing.

PARASA ISABELLA, *Moore*.

Fore-wing green, with a large anterior basal spot and an irregular-curved band on the exterior margin, suffused ferruginous-yellow; *hind-wing* and abdomen pale ferruginous; thorax green.

Hab. Bengal. Collected by Lady Isabella Rose Gilbert.

The larva and cocoon of *Parasa Nararia* are figured on Plate XXI., figs. 8, 8*a*, copied from the original drawing in the collection of A. Grote, Esq. "Feeds on a species of *Crescentia*, which, however, is not an indigenous plant."—(Grote, MS. Notes.)

946. *PARASA TRIMA, Moore* (*Pl.* XI*a*, *fig.* 13, ♂ ; 13*a*, ♀).

Parasa Trima, n. sp.—Ferruginous-brown. Male ; *fore-wing* with five transverse narrow black lines with pale margins ; a small spot at the apex and another at the posterior angle, ferruginous-white. Female ; *fore-wing* with the space between the middle transverse lines broadly paler ; antennæ of male bipectinated throughout, in the female slightly serrate. Expanse of male $\frac{3}{4}$ in., of female $\frac{7}{8}$ in.

a. b. c. d. e. f. ♂ ♀. and pupa. Java. From Dr. Horsfield's Collection.

The larva and cocoon of *Parasa Trima* are figured on Plate XXI., figs. 9, 9*a*, from Java. "Feeds on a species of *Eugenia*, bearing the native name of *Jambu Ayer*. March, April, and May. Not common." —(Horsfield, MS.)

947. *PARASA BILINEA, Walker Sp.* (*Plate* XI*a*, *fig.* 8).

Neæra bilinea, *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1142 (1855).

a. b. ♂ ♀. Java. From Dr. Horsfield's Collection.
c. ♀. N. India. Presented by General Hearsey.

The larva and cocoon of *P. bilinea* are figured on Plate XXI., figs. 10, 10*a*, from Java. "Feeds on the *Malati Kosta* (*Cadamba jasminiflora*). December. Single. Scarce."—(Horsfield, MS.)

948. *PARASA DOENIA, Moore* (*Plate* XI*a*, *fig.* 10).

Parasa Doenia, n. sp.—Pale buff-brown ; *fore-wing* with an oblique anchor-shaped ferruginous mark, extending from middle of posterior margin towards the apex, with a black discal spot on each side ; also a black apical dot ; thorax with a ferruginous spot on the hind part ; abdomen with ferruginous dorsal tufts. Expanse $\frac{7}{10}$ in.

a. ♂. Java. From Dr. Horsfield's Collection.

949. *PARASA BANDURA, Moore* (*Plate* XI*a*, *fig.* 9).

Parasa Bandura, n. sp.—Male, pale buff, *fore-wing* having the entire disc from near the base, brown; the costal margin and ciliæ pale buff. Expanse 1¼ in.

a. ♂. Java. From Dr. Horsfield's Collection.

950. *PARASA LOESA, Moore* (*Plate* XI*a*, *fig.* 12, ♀).

Parasa Loesa, n. sp.—Male, pale buff-brown; *fore-wing* with an oblique transverse narrow darker line, and a dark discal dot. Expanse 1⅛ in.

a. b. c. ♂ ♀, and pupa. Java. From Dr. Horsfield's Collection.

The larva and cocoon of *P. Loesa* are figured on Plate XXI., figs. 11, 11*a*, 11*b*; figs. 11 and 11*b* from Java, where it "feeds on the *Delima* (*Punica granatum*). December. Not common. Scarce in February."—(Horsfield, MS.) Figure 11*a* is copied from the original drawing in the collection of A. Grote, Esq., and who found the larvæ on "*Citrus, Cordia,* and *Phœnix.*"

The transformations are also figured among the drawings of Lady Isabella Rose Gilbert. The larva was "found feeding on the Sal tree (*Shorea robusta*) on the 4th August; on the 10th, it inclosed itself within a cocoon, the moth coming out on the 15th September."

951. *PARASA LALEANA, Moore.*

Parasa Laleana, n. sp.—Reddish-testaceous; *fore-wing* with the exterior margin yellowish, a broad transverse ferruginous zigzag-margined band near the base; a black dot in the middle of the disc, one at the posterior angle, and a few at the apical angle; thorax with a black dot on each side. Expanse 1⅓ in.

a. N. India. Mr. Grote's Drawing.

The larva of *P. Laleana* is figured on Plate XXI., fig. 12, copied from the original drawing in the collection of A. Grote, Esq. "Feeds on *Amona Rohitulla, Ixora longiflora,* and *Mussænda frondosa.*"—(Grote, MS. Notes.)

This curious and interesting larva, with its imago, is also figured among the drawings made by Lady Isabella Rose Gilbert, and from her ladyship's "Notes" we extract the following remarks:—"About the middle of October, 1825, I found this caterpillar on a branch of apple-tree; the head, which was seldom perceptible, was small and

white, and furnished with a pair of minute black eyes; there were six exceedingly small feet placed close to the head, and eight others, which were so short and shapeless as scarcely to come under that denomination. It grew rapidly, gliding along the twigs, and eating the leaves. On the 22nd October it removed to a corner of the cage, and commenced its little web, and was completely inclosed in a few hours, forming an inner case. On the 12th August, 1826, the moth came out. It cut a perfectly circular hole in the top of the case, the portion cut out adhering on the lower side, acting as a kind of hinge."

Genus NAROSA, *Walker*.

NAROSA, *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1151 (1855).

952. *NAROSA ADALA, Moore* (*Plate* XI*a*, *fig.* 14).

Narosa Adala, n. sp.—Male, white; *fore-wing* covered with numerous pale-brown spots, those about the middle the largest, and somewhat ferruginous; a black dot in middle of the disc; two minute black apical dots: *hind-wing* with two minute black apical dots; antennæ and body pale buff-white. Expanse 1 in.

a. b. c. ♂, and pupa. Java. From Dr. Horsfield's Collection.

The larva and cocoon of *Narosa Adala* are figured on Plate XXI., figs. 13, 13*a*, from Java. "Feeds on the *Siri-kaya* (*Annona squamosa*). December. Scarce."—(Horsfield, MS.)

Genus CANDYBA, *Walker*.

CANDYBA, *Walker, List Lep. Het. Brit. Mus. pt.* VII. *p.* 1760 (1856).

953. *CANDYBA PUNCTATA, Walker*.

Candyba punctata, *Walker, List Lep. Het. Brit. Mus. pt.* VII. *p.* 1761.

a. b. ♀. N. India. Presented by General Hearsey.

Remark.—Mr. F. Walker has given Central Brazil as the habitat of this species; but this is a mistake, which we have proved by an examination of the type specimens in the collection of W. W. Saunders, Esq., and which are labelled "*Central India.*"

Stirps VII.—Larvæ PILOSÆ.

Larva elongate, pilose; some genera gregarious, others so only when young: *either* covered with silken hairs, arranged uniformly or in tufts, some being provided with a dense anterior and posterior tuft, or an elongated fascicle projects forward from each side of the head; *or*, having several rows or a single lateral row of fleshy protuberances, from which springs a tuft of silken hairs; also two transverse anterior short dense tufts and a single or double posterior protuberance.

Metamorphosis:—Cocoon oval, firm, elongated, or fusiform, and of a slight texture.

The perfect insect has short broad wings in the male, longer and more ample in the female, and when at rest the hind-wings project beyond the anterior margin of the fore-wings; flies by day, at dusk, or after dark. Antennæ of the male deeply bipectinated, less so in the female, or bipectinated at the base only, and less so thence to the tip in the male, and either moderately bipectinated, serrated, or simple in the female; proboscis very short, invisible, or obsolete; abdomen long and attenuated in the male, very stout and generally with a lanuginose anal tuft in the female.

PHALÆNA *sect.* BOMBYCES, *pt. Linnæus S. N.* (1767).

BOMBYCES (*Larvæ* J. K. L. COLLARIÆ, VILLOSÆ *et* PILOSÆ), *Denis et Schiffermüller, Wien. Verz. pp.* 56, 57 (1776).

BOMBYCIDÆ (*Stirps* III. PILOSÆ), *Horsfield, Catal. Lep. Mus. E.I.C. pp.* 25, 27 (1828).

BOMBYX, *pt. Haworth, Lep. Brit. pp.* 76, 95 (1803).

BOMBYCITES LEGITIMÆ, *pt. Latreille, Gén. Crust. et Ins.* IV. *p.* 217 (1809).

BOMBYCIDÆ, *pt. Stephens, Ill. Brit. Ins. Haust.* II. *p.* 35 (1829); id. *Catal. Brit. Lep. Brit. Mus. p.* 44 (1850). *Westwood, Intr.* II. *p.* 379 (1840). *Duponchel, Catal. Méth. Eur. Lép. p.* 74 (1846). *Walker, List Lep. Het. Brit. Mus. pt.* VII. *p.* 1386 (1855).

BOMBYCIDA, *pt. Duncan, in Brewster's Edinb. Encycl.* IX. *p.* 131 (1830).

BOMBYCES *et* BOMBYCITES, *Newman, Sph. Vesp. p.* 41 (1832); id.

Entom. Mag. II. *p.* 383 (1834); id. *Hist. of Ins. 2nd edit. p.* 212 (1841).

Bombycini, *Boisduval, Ind. Méth. p.* 69 (1840).

Bombycites, *Blanchard, Hist. Nat. des Ins.* II. *p.* 362 (1845).

Lasiocampidæ *et* Bombycidæ, *Duponchel, Catal. Méth. Eur. Lép. pp.* 71, 74 (1846).

Lasiocampidi *et* Bombycidi, *Stephens, Catal. Brit. Lep. Brit. Mus. pp.* 45, 48 (1850).

Bombycidæ, *Stainton, Manual Brit. Lep. pp.* 107, 150 (1856).

Bombycina, *Herr. Schäffer, Lep. Exot. Spec. Nov. p.* 60 (1858).

Genus TRISULA, *Moore.*

Antennæ rather long, minutely bipectinated to about two-thirds of its length.

Palpi short, thick, densely clothed with short hairs; third joint very minute.

Legs with the femur and tibia densely clothed with hairs.

Head, thorax, and abdomen large, broad.

Fore-wings elongate-trigonate; anterior margin straight to near the apex; apical angle rather acute; exterior margin scalloped; posterior margin nearly straight.

Hind-wings rounded; exterior margin scalloped.

954. *TRISULA VARIEGATA, Moore* (*Plate* XII*a*, *fig.* 1).

Trisula variegata. — *Fore-wing* grey, variegated with suffused patches of ferruginous and black; some irregular transverse black lines; black band obliquely across the apex: *hind-wing* pale ferruginous-grey, with a large black discal spot, a submarginal curved black band, the inner space to exterior margin suffused with black; ciliæ pale ferruginous; antennæ and palpi ferruginous-brown; lower part of head black; top of head and front of thorax grey, passing to deep ferruginous on the thorax and abdomen, the lower part of which is grey; legs greyish, with blackish bands; under-side paler, each wing with a large black discal dot and blackish band. Expanse $2\frac{5}{8}$ in.

a. ♂. N. India. Presented by General Hearsey.

b. ♀. Madras. From Capt. J. M. Jones's Collection.

The larva and pupa of *Trisula variegata* are figured on Plate XXII., figs. 1, 1*a*, 1*b*, copied from the original drawings made by A. Grote, Esq., of Calcutta.

"The larva feeds on the Peepul (*Ficus religiosa*), and changed to a pupa in October, the cocoon being covered with excrement; the imago emerging in June."—(Grote, MS.)

The transformations of this insect are also figured among the drawings made by Lady Isabella Rose Gilbert, her ladyship noting in her MS. that "the larva was found on August 3rd feeding on the Peepul tree, and went into the pupa state on the 4th, covering the cocoon with particles of earth; the perfect insect coming forth on the 15th September."

Genus LASIOCAMPA, *Schrank.*

LASIOCAMPA, *Schrank, Faun. Boica,* II. *pt.* II. *p.* 153 (1802). *Stephens, Ill. Brit. Ent. Haust.* II. *p.* 38. *Walker, List Lep. Het. Brit. Mus. pt.* VI. *p.* 1427.

PHALÆNA-BOMBYX, *pt. Linnæus.*

METANASTRIA, PACHYGASTRIA, MALACOSOMA, PERIPHOBA, *et* MESOSCELIS, *Hübner, Verz. bek. Schmett. pp.* 186–192 (1816).

955. *LASIOCAMPA ACONYTA, Cramer Sp.*

♀ Phalæna-Bombyx Aconyta, *Cramer, Pap. Exot.* II. *p.* 51, *pl.* 131, *f. A.* (1779).

Metanastria Aconyta, *Hübner, Verz. bek. Schmett. p.* 186.

Dirphia Aconyta, *Walker, List Lep. Het. Brit. Mus. pt.* VI. *p.* 1370.

♀ Bombyx quadricincta, *Fabricius, Mant. Ins.* II. III. *p.* 44; *Ent. Syst.* III. I. *p.* 422.

♂ Lasiocampa trifascia *et* L. substrigosa, *Walker, List Lep. Het. Brit. Mus. pt.* VI. *pp.* 1439–1441 (1855).

a. ♂. N. India. Presented by General Hearsey.

b. c. ♀. Canara. Presented by S. N. Ward, Esq.

956. *LASIOCAMPA VITTATA, Walker.*

Lasiocampa vittata, *Walker, List Lep. Het. Brit. Mus. pt.* VI. *p.* 1440 (1855).

a. b. ♂ ♀. Canara. Presented by S. N. Ward, Esq.

c. ♂. Madras. From Capt. J. M. Jones's Collection.

Genus MURLIDA, *Moore.*

LASIOCAMPA (group 2), *Walker, List Lep. Het. Brit. Mus. pt.* VI. *p.* 1440 (1855).

957. *MURLIDA LINEOSA, Walker Sp.*

Lasiocampa lineosa, *Walker, List Lep. Het. Brit. Mus. pt.* VI. *p.* 1440 (1855).

a. b. ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

Genus LEBEDA, *Walker.*

LEBEDA (groups 1 to 7), *Walker, List Lep. Het. Brit. Mus. pt.* VI. *pp.* 1453–1461 (1855).

DIRPHIA (group 17, *pt.*), *Walker*, id. *p.* 1370.

958. *LEBEDA NOBILIS, Walker.*

Lebeda nobilis, *Walker, List Lep. Het. Brit. Mus. pt.* VI. *p.* 1456 (1855).

a. b. ♂ ♀. Silhet. Presented by the Trustees of the British Museum.

959. *LEBEDA LATIPENNIS, Walker.*

♂ Lebeda latipennis, *Walker; List Lep. Het. Brit. Mus. pt.* VI. *p.* 1457 (1855).

a. ♂. N. India. Presented by Colonel Buckley.

The larva and pupa of *Lebeda latipennis* are figured on Plate XXII., figs. 2, 2*a*, copied from Mr. Frith's drawing, in the collection of A. Grote, Esq. "Feeds on *Lagerstrœmia indica* and *Nyctanthes sp.?*" —(Grote, MS. Note.)

960. *LEBEDA FERRUGINEA, Walker.*

♂ Lebeda ferruginea, *Walker, List Lep. Het. Brit. Mus. pt.* VI. *p.* 1458 (1855).

♀ Odonestes ampla, *Walker, List Lep. Het. Brit. Mus. pt.* VI. *p.* 1412 (1855).

a. ♂. Silhet. Presented by the Trustees of the British Museum.

961. *LEBEDA PLAGIFERA, Walker.*

♀ Lebeda plagifera, *Walker, List Lep. Het. Brit. Mus. pt.* VI. *p.* 1459 (1855).

a. ♀. Java. From Dr. Horsfield's Collection.

962. *LEBEDA BUDDHA, Lefebvre Sp.* (*Plate* XII*a*, *fig.* 2, ♂; 2*a*, ♀).

♂ Bombyx Buddha, *Lefebvre, Zool. Journ.* III. *p.* 209 (1827). *Vigors, Cabinet Zool. Soc. of London.*

Lasiocampa Buddha, *Walker, List Lep. Het. Brit. Mus. pt.* VI. *p.* 1444.

♀ Bombyx Brahma, *Lefebvre, Zool. Journ.* III. *p.* 208 (1827). *Vigors, Cabinet Zool. Soc. of London.*

Lasiocampa Brahma, *Walker, List Lep. Het. Brit. Mus. pt.* VI. *p.* 1443.

♂ Lebeda plagiata, *Walker, List Lep. Het. Brit. Mus. pt.* VI. *p.* 1464 (1855).

♀ Lebeda repanda, *Walker*, id. *pt.* VI. *p.* 1460.

? ♂ Phalæna-Bombyx Hyrtaca, *Cramer, Pap. Exot.* III. *p.* 97, *pl.* 249, *f. F.* (1782).

Lasiocampa Hyrtaca, *Walker, List Lep. Het. Brit. Mus. pt.* VI. *p.* 1436.

a. ♂. Canara. Presented by S. N. Ward, Esq.

b. c. ♂ ♀. Madras. From Capt. J. M. Jones's Collection.

d. e. ♂ ♀. N. India. Presented by General Hearsey.

f. ♀. Java. From Dr. Horsfield's Collection.

963. *LEBEDA NANDA, Moore* (*Plate* XII*a*, *fig.* 3).

Lebeda Nanda, n. sp.—Male, testaceous-brown; *fore-wing* with four slightly oblique paler lines, the space between the two middle lines suffused with brown; a rather large black geminated spot near the posterior angle: *hind-wing* ferruginous at the base; palpi and body beneath ferruginous. Expanse 2½ in.

a. ♂. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

Remark.—Allied to *Gastropacha protracta*, from Africa; figured in Herr. Schäffer's Lep. Exot. Spec. Nov. ser. I. pl. 82, f. 473.

Genus ODONESTIS, *Germar*.

ODONESTIS, *Germar, Bombyc.* II. *p.* 49 (1813). *Stephens, Ill. Brit. Ins. Haust.* II. *p.* 51. *Walker, List Lep. Het. Brit. Mus. pt.* VI. *p.* 1409.

PHALÆNA-BOMBYX, *pt. Linnæus.*

BOMBYX, *pt. Fabricius.*

LASIOCAMPA, *pt. Schrank.*

964. *ODONESTIS VITA, Moore* (*Plate* XII*a*, *fig.* 4).

Odonestis Vita, n. sp. — Male, ferruginous; *fore-wing* with two transverse rather indistinct undulated blackish discal lines, having a central white discal spot; a submarginal row of zigzag blackish dots. Expanse 1½ in.

a. ♂. Java. From Dr. Horsfield's Collection.

965. *ODONESTIS BHEROBA, Moore* (*Plate* XII*a*, *fig.* 5).

Odonestis Bheroba, n. sp.—Female, ferruginous; *fore-wing* with two transverse slightly-curved blackish widely-separated discal lines, having a central white discal spot. Expanse 2½ in.

a. ♀. Darjeeling. From Messrs. Schlagintweit's Collection.

Genus TRABALA, *Walker*.

AMYDONA,* *Walker, List Lep. Het. Brit. Mus. pt.* VI. *p.* 1413 (1855).

TRABALA, *Walker*, id. *pt.* VII. *p.* 1785 (1856).

966. *TRABALA LÆTA, Walker* (*Plate* XII*a*, *fig.* 7, ♂; 7*a*, ♀).

♀ Amydona læta, *Walker, List Lep. Het. Brit. Mus. pt.* VI. *p.* 1416 (1855).

Trabala læta, *Walker*, id. *pt.* VII. *p.* 1785.

a. *b*. ♂ ♀. Java. From Dr. Horsfield's Collection.

* This name was previously used by Mr. Walker. (*Vide* pt. V. p. 1110.)

Trabala læta.—Male, testaceous, greyish along exterior margins; *fore-wing* with a transverse indistinct brown line near the base, and an oblique transverse brown line from the costa near the apex to middle of posterior margin, between which and the outer margin is a zigzag brown line, an indistinct discal spot, and a dot before it. Expanse of male $1\frac{1}{2}$ in., female $2\frac{5}{8}$ in.

967. *TRABALA VISHNU, Lefebvre Sp.*

♀ Gastropacha Vishnu, *Lefebvre, Zool. Journ.* III. *p.* 207 (1827). *Vigors, Cabinet Zool. Soc. of London. Walker, List Lep. Het. Brit. Mus. pt.* VI. *p.* 1394.

♂ Amydona prasina *et* A. pallida, *Walker, List Lep. Het. Brit. Mus. pt.* VI. *p.* 1417 (1855).

Trabala prasina *et* T. pallida, *Walker*, id. *pt.* VII. *p.* 1785.

♀ Amydona basalis, *Walker, List Lep. Het. Brit. Mus. pt.* VI. *p.* 1415 (1855).

Trabala basalis, *Walker*, id. *pt.* VII. *p.* 1785.

Odonestis eucalyptifolia, *MS. Mus. India House.*

a. b. c. d. e. f. ♂ ♀. Java. From Dr. Horsfield's Collection.

g. h. ♂ ♀. N. India. Presented by Colonel Buckley.

i. ♀. Penang. Presented by Dr. Cantor.

j. k. ♂. Madras. From Capt. J. M. Jones's Collection.

l. m. ♂ ♀. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

The larva, pupa, and cocoon of *Trabala Vishnu* are figured on Plate XXII., figs. 3, 3*a*, 3*b*, from India, copied from the original drawings in the collection of A. Grote, Esq.; figs. 3*c*, 3*d*, from Java, copied from Dr. Horsfield's drawings. "Feeds on the castor-oil plant (*Ricinus communis*)."—(Grote, MS. Note.)

The transformations of this insect were also observed and figured in Java by Dr. Horsfield. "Feeds on the *Delima* (*Punica granatum*). December to April. Common."—(Horsfield, MS.)

Lady Isabella Rose Gilbert also observed the transformations of both sexes of *Trabala Vishnu*, and gives the following note: "August 12th, found the larva feeding on the Sal tree (*Shorea robusta*); on the

28th it spun a cocoon on the back of a leaf, and on the 16th September the moth came out (a male), of a delicate pale-green colour. The cocoon of this insect was covered with small short stiff hairs, which adhered so closely to the hand, that pincers were necessary to extract them. The larva, when touched, left a sensation on the skin similar to that of the sting of the nettle."

"On the 20th June, 1825, a caterpillar of this species was brought to me on a branch of pomegranate-tree, and which, after feeding some days, seemed restless; and on the 26th I found it had, during the night, inclosed itself in a cocoon suspended from one of the branches. On the 12th July the moth (a female) came out."

Genus GASTROPACHA, *Ochs.*

GASTROPACHA, *Ochsenheimer, S.* III. *p.* 239 (1810). *Curtis, Brit. Ent.* I. *p.* 24. *Walker, List Lep. Het. Brit. Mus. pt.* VI. *p.* 1389.

PHALÆNA-BOMBYX, *pt. Linnæus.*

BOMBYX, *pt. Fabricius.*

LASIOCAMPA, *pt. Schrank.*

968. *GASTROPACHA DERUNA, Moore* (*Plate* XII*a*, *fig.* 6).

Gastropacha Deruna, n. sp.—Female, ferruginous; *fore-wing* with two transverse slightly-curved dark zigzag lines, the space along their outer margin being also dark, the space between the lines and about the base of the wing suffused with grey; three greyish-white submarginal apical dots, and three zigzag marks before the posterior angle: *hind-wing* with a suffused dark streak from abdominal angle. Expanse 2¾ in.

a. ♀. Java. From Dr. Horsfield's Collection.

Genus ESTIGENA, *Moore.*

MEGASOMA (group 4), *Walker, List Lep. Het. Brit. Mus. pt.* VI. *p.* 1452 (1855).

969. *ESTIGENA PARDALE, Walker Sp.* (*Plate* XIII*a*, *fig.* 1, ♂; 1*a*, ♀).

Magasoma pardale, *Walker, List Lep. Het. Brit. Mus. pt.* VI. *p.* 1453 (1855).

a. b. c. d. e. f. ♂ ♀. Java. From Dr. Horsfield's Collection.

970. *ESTIGENA NANDINA, Moore.*

Estigena Nandina, n. sp.—Male, pale ferruginous. Distinguished from *Estigena pardale* by the *fore-wing* being without the numerous transverse markings, the *hind-wing* being also without the testaceous spot towards the inner margin; the latter wings are also narrower and longer. Expanse $1\frac{3}{4}$ in.

a. ♂. N. India. Presented by General Hearsey.

Genus TARAGAMA, *Moore.*

MEGASOMA,* *Boisduval, Feisthamel, Ann. Soc. Ent. France,* I. *p.* 340. *Walker, List Lep. Het. Brit. Mus. pt.* VI. *p.* 1446.

STREBLOTE, *pt. Hübner, Verz. bek. Schmett. p.* 193, *n.* 1980 (1816).

971. *TARAGAMA GANESA, Lefebvre Sp.*

♂ Bombyx Ganesa, *Lefebvre, Zool. Journ.* III. *p.* 211 (1827). *Vigors, Cabinet Zool. Soc. of London.*

♀ Bombyx Siva, *Lefebvre, Zool. Journ.* III. *p.* 210 (1827). Lasiocampa Ganesa *et* L. Siva, *Walker, List Lep. Het. Brit. Mus. pt.* VI. *pp.* 1443–44.

♀ Megasoma venustum, *Walker, List Lep. Het. Brit. Mus. pt.* VI. *p.* 1449 (1855).

♂ Megasoma albicans, *Walker*, id. *p.* 1450 (1855).

a. b. c. d. e. f. ♂ ♀. Java. From Dr. Horsfield's Collection.

g. h. ♂ ♀. Dukhun. Presented by Col. Sykes.

i. ♀. Canara. Presented by S. N. Ward, Esq.

j. k. ♂ ♀. Punjab. Presented by General Hearsey.

The larva and pupa of *Taragama Ganesa* are figured on Plate XXII., figs. 4, 4*a*, copied from the original drawing in the collection of A. Grote, Esq. "Feeds on *Hyperanthera moringa*." — (Grote, MS. Note.)

The transformations also observed and figured in Java by Dr. Horsfield. "Feeds on the *Pilang* (*Mimosa sp.*) and the *Kedawung*. December."—(Horsfield, MS.)

The transformations of *Megasoma Ganesa* are figured among the drawings of Lady Isabella Rose Gilbert, a larva being "found on

* Preoccupied among *Coleoptera* in 1825.

July 19th, which inclosed itself in a cocoon on the 24th, the moth coming out on the 13th August. The moth drops down as if dead when touched, and remains so for a few minutes."

Genus SUANA, *Walker*.

SUANA, *Walker, List Lep. Het. Brit. Mus. pt.* VI. *p.* 1502 (1855).

LEBEDA (group VIII. *pt.*), *Walker, List Lep. Het. Brit. Mus. pt.* VI. *p.* 1462.

972. *SUANA BIMACULATA, Walker Sp.* (*Plate* XIII*a*, *fig.* 2, ♂ ; 2*a*, ♀).

♂ Lebeda bimaculata *et* concolor, *Walker, List Lep. Het. Brit. Mus. pt.* VI. *p.* 1463 (1855).

♀ Suana ampla, *Walker, List Lep. Het. Brit. Mus. pt.* VI. *p.* 1502 (1855).

a. b. c. d. e. f. ♂ ♀. Java. From Dr. Horsfield's Collection.

The larva, pupa, and cocoon of *Suana bimaculata* are figured on Plate XXIII., figs. 1, 1*a*, 1*b*, from Java. "Feeds on a species of *Psidium*, bearing the native name of *Jambu-klutu*. November to January. Common during the rains."—(Horsfield, MS.)

The transformations of *Suana bimaculata* are also figured among Edgar Leopold Layard's drawings, from Ceylon.

Stirps VIII.—Larvæ LIGNIVORÆ.

PHALÆNA *sect.* BOMBYCES, *pt. Linnæus, S. N.* (1767).

PHALÆNA *sect.* NOCTUÆ, *pt. Linnæus, S. N.* I. II. *pp.* 809, 833 (1767).

BOMBYCES (*Larvæ* M. N. O.), *Denis et Schieffermüller, Wien. Verz. pp.* 59, 60 (1776).

BOMBYCIDÆ (*Stirps* IV. LIGNIVORA), *Horsfield, Catal. Lep. Mus. E.I.C. pp.* 25, 27 (1828).

BOMBYCITES, *pt. Latreille.*

This stirps present in their transformations three sections.

SECTION I.

Larva naked, vermiform; constructs a portable silken case (or habitaculum*), which is, in most genera, fortified exteriorly with pieces of grass-stems, or sticks, or leaves, &c., in which it resides and undergoes its transformations.

The perfect insect has, generally, in the male, long and narrow wings; flies by day; antennæ either bipectinated throughout, or only so at the base, with the tip filiform or serrated, or ciliated; proboscis obsolete; abdomen long, slender, and extensile. The female generally (?) wingless, and, as in Psyche, vermiform, with rudimentary legs and antennæ, and seldom or never quits her case, but receives the caresses of the male whilst still confined within. In the genus *Fumea* the female is araneiform, and has legs and simple antennæ, and emerges from her case and sits on the outside.

BOMBYCITES LEGITIMÆ, *pt. Latreille, Gén. Crust. et Ins.* IV. *p.* 217 (1809).

ARCTIIDÆ, *pt. Stephens, Ill. Brit. Ins. Haust.* II. *p.* 54 (1829); id. *Catal. Brit. Lep. Brit. Mus. p.* 49 (1850). *Westwood, Intr.* II. *p.* 384 (1840).

PSYCHIDES, *Boisduval, Ind. Méth. p.* 78 (1840). *Blanchard, Hist. Nat. des Ins.* II. *p.* 363 (1845). *Newman, Trans. Ent. Soc. Lond. n. s.* III. *p.* 7 (1854).

* Lansdown Guilding, Trans. Linn. Soc. XV. p. 374 (1827).

PSYCHIDÆ, *Bruand, Monog. Psych. pp.* 17, 113 ( ). *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 926 (1855). *Stainton, Manual Brit. Lep. pp.* 108, 164 (1856).

COSSI, *pt. Newman, Sph. Vesp. p.* 41 (1832).

PSYCHIDI, *Stephens, Catal. Brit. Lep. Brit. Mus. p.* 55 (1850).

ŒCETICINA, *Herr. Schäffer, Lep. Exot. Spec. Nov. p.* 59 (1858).

Genus EUMETA, *Walker.*

EUMETA, *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 964 (1855).

973. *EUMETA CRAMERI, Westwood Sp.*

Oiketicus Cramerii, *Westwood, Proc. Zool. Soc.* (1854), *p.* 236, *pl.* 37, *f.* 4.

Eumeta Cramerii, *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 964.

a. b. ♂. Canara. Presented by S. N. Ward, Esq.

974. *EUMETA HORSFIELDI, Moore.*

Eumeta Horsfieldi, n. sp.—Male, brown; *fore-wing* suffused with grey along the costa and on the disc; an indistinct submarginal row of black dots: *hind-wing* pale brown. Expanse 1¾ in.

a. ♂. Java. From Dr. Horsfield's Collection.

975. *EUMETA RAFFLESI, Moore.*

Eumeta Rafflesi, n. sp.—Male, greyish-white; *fore-wing* slightly suffused with brown, with a submarginal row of brown dots; *hind-wing* pale ferruginous-brown, the base yellowish; antennæ pale brown; palpi ferruginous-brown above; abdomen ferruginous-brown; tuft greyish-white. Expanse 1¾ in.

a. ♂. Java. From Dr. Horsfield's Collection.

Genus NEMETA, *Walker.*

NEMETA, *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 968 (1855).

976. *NEMETA LOHOR, Moore* (*Plate* XIII*a*, *fig.* 3).

Nemeta Lohor, n. sp.—Male, deep ferruginous; *fore-wing* with patches on the disc, and a small patch at the apex, black; *hind-wing* with a triangular hyaline space from exterior margin; the anterior and abdominal margins fuliginous-brown; thorax with two black

spots in front, and one on each side; base of abdomen black. Expanse $1\frac{1}{8}$ in.

a. ♂. Java. From Dr. Horsfield's Collection.

SECTION II.

Larva elongate, finely pilose, somewhat gregarious. Metamorphosis in a slight subterranean folliculus.

The perfect insect has long wings, and flies by darkness; antennæ slightly bipectinated in the male, simple or slightly serrated in the female; proboscis short; abdomen long, stout.

PHALÆNA *sect.* BOMBYCES, *pt. Linnæus, S. N.* I. II. (1767).

BOMBYCES (*Larvæ* M. SUBPILOSÆ), *pt. Denis et Schiffermüller, Wien. Verz. p.* 59 (1776).

BOMBYX, *pt. Haworth, Lep. Brit. p.* 76 (1803).

NOTODONTIDÆ, *pt. Stephens, Ill. Brit. Ins. Haust.* II. *p.* 10 (1829); id. *Catal. Brit. Lep. Brit. Mus. p.* 37 (1850). *Newman, Sph. Vesp. p.* 42 (1832). *Walker, List Lep. Het. Brit. Mus. pt.* IV. *p.* 977 (1855). *Stainton, Manual Brit. Lep. pp.* 107, 114 (1856).

NOTODONTITES, *pt. Newman, Entom. Mag.* II. *p.* 383 (1834); id. *Hist. of Ins. 2nd edit. p.* 213 (1841).

ARCTIIDÆ, *pt. Westwood, Intr.* II. *p.* 384 (1840).

NOTODONTIDES, *pt. Boisduval, Ind. Méth. p.* 84 (1840). *Blanchard, Hist. Nat. des Ins.* II. *p.* 365 (1845).

PYGÆRITES, *pt. Blanchard, Hist. Nat. des Ins.* II. *p.* 365 (1845).

PYGÆRIDÆ, *Duponchel, Catal. Méth. Eur. Lép. p.* 95 (1846).

PYGERIDI, *Stephens, Catal. Brit. Lep. Brit. Mus. p.* 37 (1850).

Genus ANTHEUA, *Walker.*

ANTHEUA, *Walker, List Lep. Het. Brit. Mus. pt.* III. *p.* 687 (*May 14th*, 1855).

DIASTEMA, *Herr. Schäffer, Lep. Exot. Spec. Nov. fig.* 379 (1855).

977. *ANTHEUA DISCALIS, Walker* (*Plate* XIII*a*, *fig.* 4, ♂).

Antheua discalis, *Walker, List Lep. Het. Brit. Mus. pt.* III. *p.* 767 (1855).

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

The larva and pupa of *Antheua discalis* are figured on Plate XXIII., figs. 2, 2*a*, from Java. "Feeds on a species of *Hedysarum*, bearing the native name of *Brobos*. March."—(Horsfield, MS.)

Genus ANTICYRA, *Walker*.

ANTICYRA, *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1091 (1855).
DINARA, *Walker*, id. *pt.* VII. *p.* 1699 (1856).

978. *ANTICYRA COMBUSTA, Walker* (*Plate* XIII*a*, *fig.* 5).

Anticyra combusta, *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1092 (1855).
Dinara lineolata, *Walker*, id. *pt.* VII. *p.* 1700 (1856).

a. b. c. d. ♂ ♀. Java. From Dr. Horsfield's Collection.

Remark.—We have compared specimens of *Anticyra combusta* with the type of *Dinara lineolata*, in the collection of W. W. Saunders, Esq., and find them to be identical.

The larva and pupa of *Anticyra combusta* are figured on Plate XXIII., figs. 3, 3*a*, from Java. "Feeds on the *Tubu* (*Saccharum sp.*). January."—(Horsfield, MS.)

Genus PHALERA, *Hübner*.

PHALERA, *Hübner, Verz. bek. Schmett. p.* 146 (1816). *Walker, List Lep. Het. Brit. Mus. pt.* V. *p.* 1049.
ACROSEMA, *Meig. Eur. Schmett.* III. *p.* 24 (1832).
HAMMATOPHORA, *Westwood, Brit. Moths*, I. *p.* 63 (1842).
PHALÆNA-BOMBYX, *pt. Linnæus.*
LARIA, *pt. Schrank.*
PYGÆRA, *pt. Ochsenheimer, Schmett. von Eur.* (1810).
SERICARIA, *pt. Latreille, Fam. Nat. p.* 474 (1825).
MELALOPHÆ, *pt. Hübner.*

979. *PHALERA JAVANA, Moore* (*Plate* XIII*a*, *fig.* 6).

Phalera Javana, n. sp.—*Fore-wing* silvery-grey, dotted with brown, suffused with brown along the costa; a sub-basal transverse double irregular black line, the inner line with a black spot on posterior margin; two discal pale-margined spots, the first longitudinal, the other transverse; a submarginal double undulated black line upward from near posterior angle, and terminating at half its length in a

triangular apical patch, which is ferruginous, with darker longitudinal streaks; some irregular ferruginous zigzag marginal lines apically: *hind-wing* pale brown, darker along the margin, and with whitish fringe to the abdominal margin; upper part of head and front of thorax pale ferruginous; sides of thorax silvery-grey; thorax with a double black-margined dark ferruginous quadrate spot; lower part of head, palpi, and legs, ferruginous; abdomen ferruginous-brown above, yellowish beneath. Expanse $2\frac{1}{4}$ in. to $2\frac{1}{2}$ in.

a. b. c. ♂ ♀. Java. From Dr. Horsfield's Collection.

The larva and pupa of *Phalera Javana* are figured on Plate XXIII., figs. 4, 4*a*, from Java. "Feeds on the *Rawe* (*Dolichos ruriens*). April."—(Horsfield, MS.)

980. *PHALERA RAYA, Moore.*

Phalera Raya, n. sp.—Fore-wing silvery-grey, with the transverse lines indistinct, the apical patch ferruginous, its margins undulated; discal spots whitish; some indistinct marginal marks; a suffused blackish spot near the posterior angle: *hind-wing* silvery greyish-brown; ciliæ white, spotted with ferruginous; upper part of head, front of thorax, and abdomen anteriorly above, pale ferruginous; lower part of head and palpi deep ferruginous; sides of thorax silvery-grey, quadrate spot indistinct; thorax beneath and legs brown; abdomen beneath and anally above testaceous. Expanse $2\frac{5}{8}$ in.

a. b. Darjeeling. From Messrs. Schlagintweit's Collection.

981. *PHALERA SANGANA, Moore.*

Phalera Sangana, n. sp.—Fore-wing dark brown, slightly silvery-brown basally and along posterior margin, with numerous transverse undulated darker lines, a sub-basal transverse black line, and a sub-marginal double line widening apically where its interspace is ferruginous-brown; some marginal black marks: *hind-wing* dark brown; thorax dark ferruginous-brown, sides greyish; upper part of head *pure white*, lower part and palpi dark ferruginous; abdomen brown, with darker suffused bands; tip pale. Expanse $3\frac{1}{4}$ in.

a. b. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

982. *PHALERA GROTEI, Moore.*

Phalera Grotei, n. sp.—*Fore-wing* brown, with numerous indistinct undulated lines; silvery basally and along the posterior margin; a sub-basal transverse black line; a submarginal black double line with its tip of a buff-colour; marginal lines zigzag: *hind-wing* brown, with broad darker brown marginal band; upper part of head whitish, front of thorax brown, sides and hind-part of thorax grey; abdomen pale brown, with blackish bands. Expanse $2\frac{3}{4}$ in.

a. Bengal. Mr. Grote's Drawing.

The larva and pupa of *Phal. Grotei* are figured on Plate XXIII., figs. 5, 5*a*, 5*b*, copied from the original drawing of A. Grote, Esq.

The larva "feeds on *Cæsalpinia*."

983. *PHALERA PARIVALA, Moore.*

Phalera Parivala, n. sp.—*Fore-wing* suffused with black, grey at the base and at the posterior angle, with various sub-basal black undulating lines and a black patch on posterior margin; the apical ferruginous patch broad, extending considerably across the wing, and having regular undulated margins; some ferruginous marginal and black submarginal spots: *hind-wing* fuliginous, palest basally; ciliæ paler, with dark spots; sides of thorax grey; upper part of head and front of thorax pale ferruginous; thorax with blackish quadrate spot; abdomen above pale ferruginous; tip testaceous; body beneath and legs brown. Expanse $3\frac{3}{8}$ in.

a. *b*. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

SECTION III.

Larva elongate, fleshy, either naked or with only a few fine short straggling hairs, with a horny plate on the second segment; feeds in the wood of trees, or at the roots of plants.

Metamorphosis:—Cocoon of slight material, either formed within the cell or bore of the larva, or subterranean.

The perfect insect has very long wings; flies at dusk; antennæ either bipectinated to the middle, thence to tip serrated or simple, in the male; female, simple or slightly ciliated, or short and simple; proboscis obsolete; abdomen long, stout, or slender.

PHALÆNA *sect.* BOMBYCES *et* NOCTUÆ, *pt. Linnæus, S. N.* (1767).

BOMBYCES (*Larvæ* N. O. LIGNIVORÆ *et* RADICIVORÆ), *Denis et Schiefermüller, Wien. Verz. pp.* 56, 60 (1776).

BOMBYX, *pt. Haworth, Lep. Brit. p.* 76 (1803).

BOMBYCITES-HEPIALITES, *Latreille, Gén. Crust. et Ins.* IV. *p.* 216 (1809).

HEPIALIDÆ, *Stephens, Ill. Brit. Ins. Haust.* II. *p.* 3 (1829); id. *Catal. Brit. Lep. Brit. Mus. p.* 34 (1850). *Swainson, Cabinet Cyclop. Ins. p.* 106 (1840). *Westwood, Intr.* II. *p.* 375 (1840). *Walker, List Lep. Het. Brit. Mus. pt.* VII. *p.* 1548 (1856). *Stainton, Manual Brit. Lep. pp.* 107, 109 (1856).

COSSIDA, *pt. Duncan, in Brewster's Edinb. Encycl.* IX. *p.* 131 (1830).

COSSI, *pt. Newman, Sph. Vesp. p.* 41 (1832).

COSSIDÆ, ZEUZERIDÆ, COSSITES, *et* XYLEUTITES, *Newman, Entom. Mag.* I. *p.* 68 (1832); II. *p.* 383 (1834); id. *Hist. of Ins. 2nd edit. p.* 213 (1841).

ZEUZERIDES, *Boisduval, Ind. Méth. p.* 75 (1840).

HEPIALIDES, *pt. Blanchard, Hist. Nat. des Ins.* II. *p.* 384 (1840).

COSSIDÆ, *Walker, List Lep. Het. Brit. Mus. pt.* VII. *p.* 1509 (1856).

ZEUZERIDÆ, *Stainton, Manual Brit. Lep. pp.* 107, 109 (1856).

EPIALOIDEA, *et* COSSINA, *pt. Herr. Schäffer, Lep. Exot. Spec. Nov. pp.* 56, 58 (1858).

Genus COSSUS, *Fabricius.*

COSSUS, *Fabricius, Ent. Syst.* III. I. (1793). *Walker, List Lep. Het. Brit. Mus. pt.* VII. *p.* 1510.

XYLEUTES *et* HYPOPTA, *Hübner, Verz. bek. Schmett. p.* 195 (1816).

CRYPTOBIA, *Boisduval.*

PHALÆNA-BOMBYX, *pt. Linnæus.*

PHALÆNA-NOCTUA, *pt. Linnæus.*

984. *COSSUS STRIX, Linnæus Sp.*

Phalæna-Noctua Strix, *Linnæus, Syst. Nat.* I. II. *p.* 833 (1767); *Mus. Lud. Ulr. p.* 377. *Clerck, Icon. pl.* 51, *f.* 1.

Cossus Strix, *Walker, List Lep. Het. Brit. Mus. pt.* VII. *p.* 1521.

Phalæna-Bombyx Strix, *Cramer, Pap. Exot.* II. *p.* 77, *pl.* 145, *f. A.*

Bombyx Strix, *Olivier, Enc. Méth.* V. *p.* 56.

Xyleutes Strix, *Hübner, Verz. bek. Schmett. p.* 195.

a. b. c. ♂ ♀. Java. From Dr. Horsfield's Collection.

Genus ZEUZERA, *Latreille.*

Zeuzera, *Latreille, Hist. Nat. des Ins.* XIV. *p.* 175 (1802). *Walker, List Lep. Het. Brit. Mus. pt.* VII. *p.* 1528.

Latagia *et* Chalcidica, *Hübner, Verz. bek. Schmett. p.* 196-7 (1816).

Xyrena, *Boisduval, Herr. Schäffer, Lep. Exot. Spec. Nov. ser.* I. *f.* 162 (1854).

Eudoxyla, *Boisduval, Herr. Schäffer*, id. *f.* 163 (1854).

Phalæna-Noctua, *pt. Linnæus.*

Cossus, *pt. Fabricius.*

Hepialus, *pt. Schrank.*

Morpheis, *pt. Hübner.*

985. *ZEUZERA LEUCONOTA, Stephens.*

Zeuzera leuconata, *Stephens, MS. Walker, List Lep. Het. Brit. Mus. pt.* VII. *p.* 1537 (1856).

a. Java. From Dr. Horsfield's Collection.

b. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

986. *ZEUZERA SIGNATA, Walker.*

Zeuzera signata, *Walker, List Lep. Het. Brit. Mus. pt.* VII. *p.* 1537 (1856).

a. b. ♂ ♀. Java. From Dr. Horsfield's Collection.

987. *ZEUZERA MINEUS, Cramer Sp.*

Phalæna-Bombyx Mineus, *Cramer, Pap. Exot.* II. *p.* 52, *pl.* 131, *f. D.* (1782). *Donovan, Ins. of India, pl.*

Zeuzera Mineus, *Walker, List Lep. Het. Brit. Mus. pt.* VII. *p.* 1535.

Chalcidica Minea, *Hübner, Verz. bek. Schmett. p.* 197.
Zeuzera viridicans, *Eschscholtz, in Kotzebue's Voy. p.* 219, *pl.* , *f.* 29.

a. Java. From Dr. Horsfield's Collection.

988. *ZEUZERA INDICA, Boisduval.*

Zeuzera indica, *Boisduval, Herr. Schäffer, Lep. Spec. Nov. ser.* I. *f.* 166 (1854). *Walker, List Lep. Het. Brit. Mus. pt.* VII. *p.* 1536.

a. ♂. N. India. Presented by Col. Buckley.

Genus PHASSUS, *Stephens.*

Phassus, *Stephens, MS. Walker, List Lep. Het. Brit. Mus. pt.* VII. *p.* 1566 (1856).
Epiolus, *pt. Boisduval. Herr. Schäffer.*

989. *PHASSUS DAMOR, Moore.*

Phassus Damor, n. sp.—Brown; *fore-wing* with numerous indistinct transverse greyish undulated lines, a large irregular-shaped dark ferruginous-brown greyish-margined discal mark, disposed transversely from near the base, then along the disc, where it widens; its anterior margin is defined by a recurved silvery-grey line, at the end of which apically is a narrow dark-brown streak: *hind-wing* with some grey and brown indistinct spots about the apex; thorax greyish-brown, the sides dark ferruginous-brown. Expanse 3¼ in.

a. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

990. *PHASSUS ABOE, Moore.*

Phassus Aboe, n. sp.—Dark fuliginous-brown; *fore-wing* varied with indistinct ferruginous-brown streaks; a white discal dot; a narrow greyish line from near base of costal vein, extending very obliquely to below the disc, and then ascending obliquely to the costa one-third from the apex; also a line extending transversely submarginally. Expanse 2½ in.

a. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

Genus HEPIALUS, *Fabricius.*

Hepialus, *Fabricius, Syst. Ent. p.* 589 (1775).

Gorgopis, *pt.* Gazoryctra, Pharmacis, *et* Triodia, *Hübner, Verz. bek. Schmett. p.* 198 (1816).

Phalæna-Noctua, *pt. Linnæus.*

991. *HEPIALUS NEPALENSIS, Stephens.*

Hepialus nepalensis, *Stephens, MS. Walker, List Lep. Het. Brit. Mus. pt.* VII. *p.* 1557 (1856).

a. Darjeeling. From Indian Collection, Exposition Universelle at Paris, 1855.

APPENDIX.

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322. No. 755. Add specimens *e. f. g.* Calcutta. Presented by W. S. Atkinson, Esq. "Flies in October and November." —(Atkinson, *in litt.*)

330. No. 779. *e. f.* ♂ ♀. (but with the oblique band narrower than in Javan specimens) Moulmein. Presented by W. S. Atkinson, Esq.

"Found abundantly last January among the mountains near Moulmein. It flies only at dusk, and haunts dark holes and caverns about the margins of streams—at least, it was only in such localities that I found it."—(Atkinson, *in litt.*)

349. No. 838. Specimens *f. g. h.* ♂ ♀. Calcutta. Presented by W. S. Atkinson, Esq.

346. No. 825. Add specimens *d. e.* ♂ ♀. Calcutta. Presented by W. S. Atkinson, Esq.

"This is very common round Calcutta, but seems confined to the Delta. I have never observed it in boxes from the Hills. The flight [of the male] is very like that of the European *Orgyia antiqua*, but stronger, and, like that insect, it is a day-flier. The larva is polyphagous, and I have found it nearly all the year round in a *Jonesia* tree in my garden. Female wingless."—(Atkinson, *in litt.*)

Remark. — The transformations of this species (figured on Pl. XV., figs. 7 and 8) are remarkably like those of *Lymantria dispar*!

350. No. 839. Add specimen *g.* ♂. Calcutta. Presented by W. S. Atkinson, Esq.

351. No. 843. Add specimens *b. c.* ♂ ♀. Calcutta. Presented by W. S. Atkinson, Esq.

352. No. 849. Add specimen *b.* ♂. Calcutta. Presented by W. S. Atkinson, Esq.

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371. No. 995. Add specimens *b. c. d. e.* ♂ ♀. Calcutta. Presented by W. S. Atkinson, Esq.

"Larva hairy, grey; gregarious; feeds on *Zizyphus jujuba*."—(Atkinson, *in litt.*)

397. No. 919. Fresh specimens of *Antheræa Roylei* are of a dull *greenish-buff*, not plain buff-colour.

434. No. 982. Add specimen *b.* ♂. Calcutta. Presented by W. S. Atkinson, Esq.

"Larva very delicate light blue-green on the back; with a bright sulphur-yellow band along the spiracles, which are black; immediately above this is a band of yellowish pea-green divided longitudinally by a pale line; a slightly-raised wart on the sides of each segment, from which proceeds a pencil of very fine silky-white hairs. Penultimate segment protuberant. The parts below the spiracles pea-green, with a black wart immediately above each leg, except the last pair, which are very anomalous, resembling those of *Cerura*, set round with black bristly hairs, with cilia of a yellowish-green colour, and which can be protruded from the extremities at pleasure, as in *Cerura*. These legs are elevated when the larva is at rest, but are used for clasping the leaf or twig when in motion. The head is large, of a greenish fawn-colour; jaws reddish. The anterior portion of the segment behind the head opens somewhat widely to receive it, and the upper front is furnished with two erect horns of a dull orange-yellow, set round with black bristly hairs. Fore-legs red. After two or three moults, the posterior legs lose their abnormal form, and, apparently, the protractile ciliæ; they remain somewhat long, but perform the ordinary functions of the other membranous legs. Feeds on *Cassia fistula*."—(Atkinson, *in litt.*)

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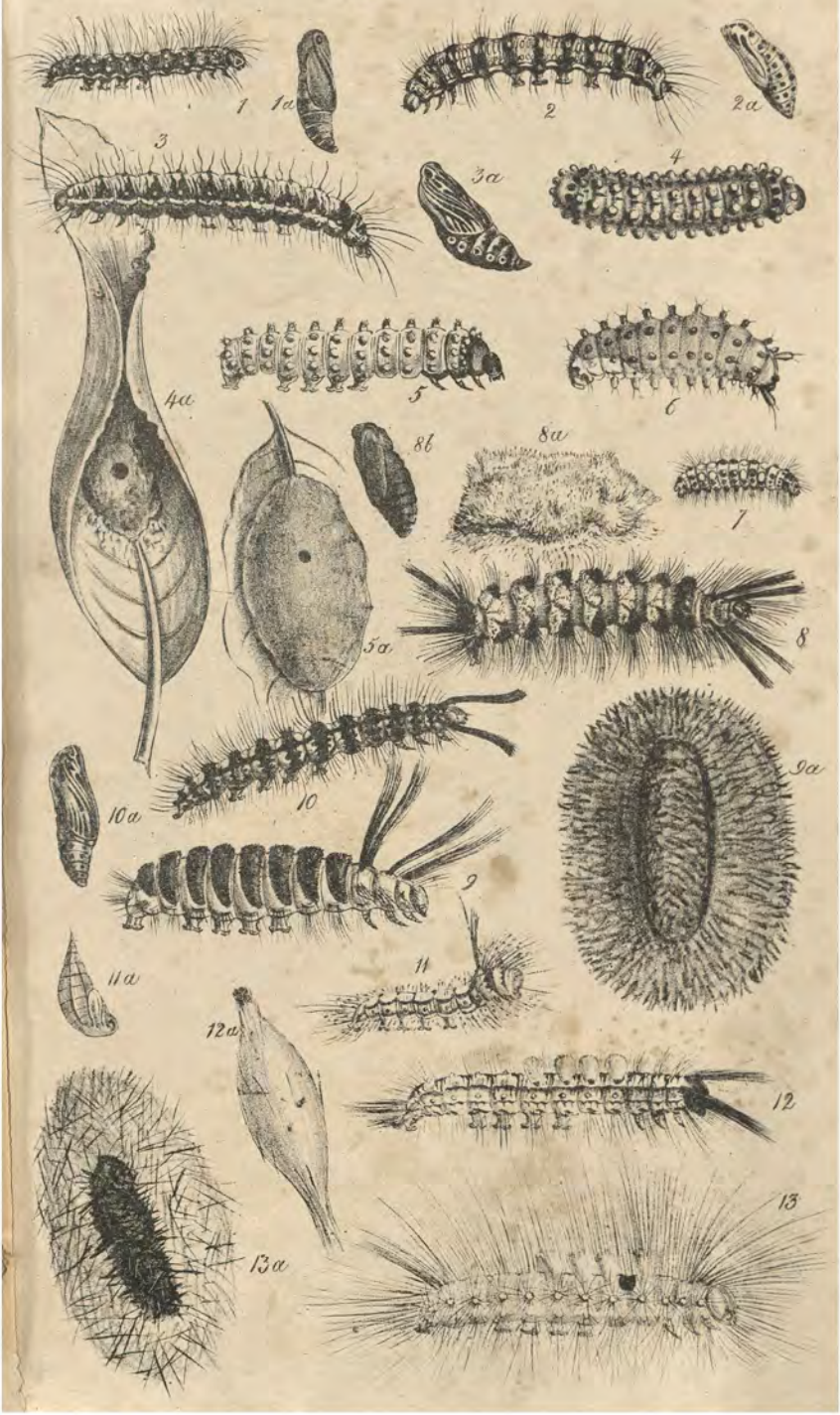
XIV.



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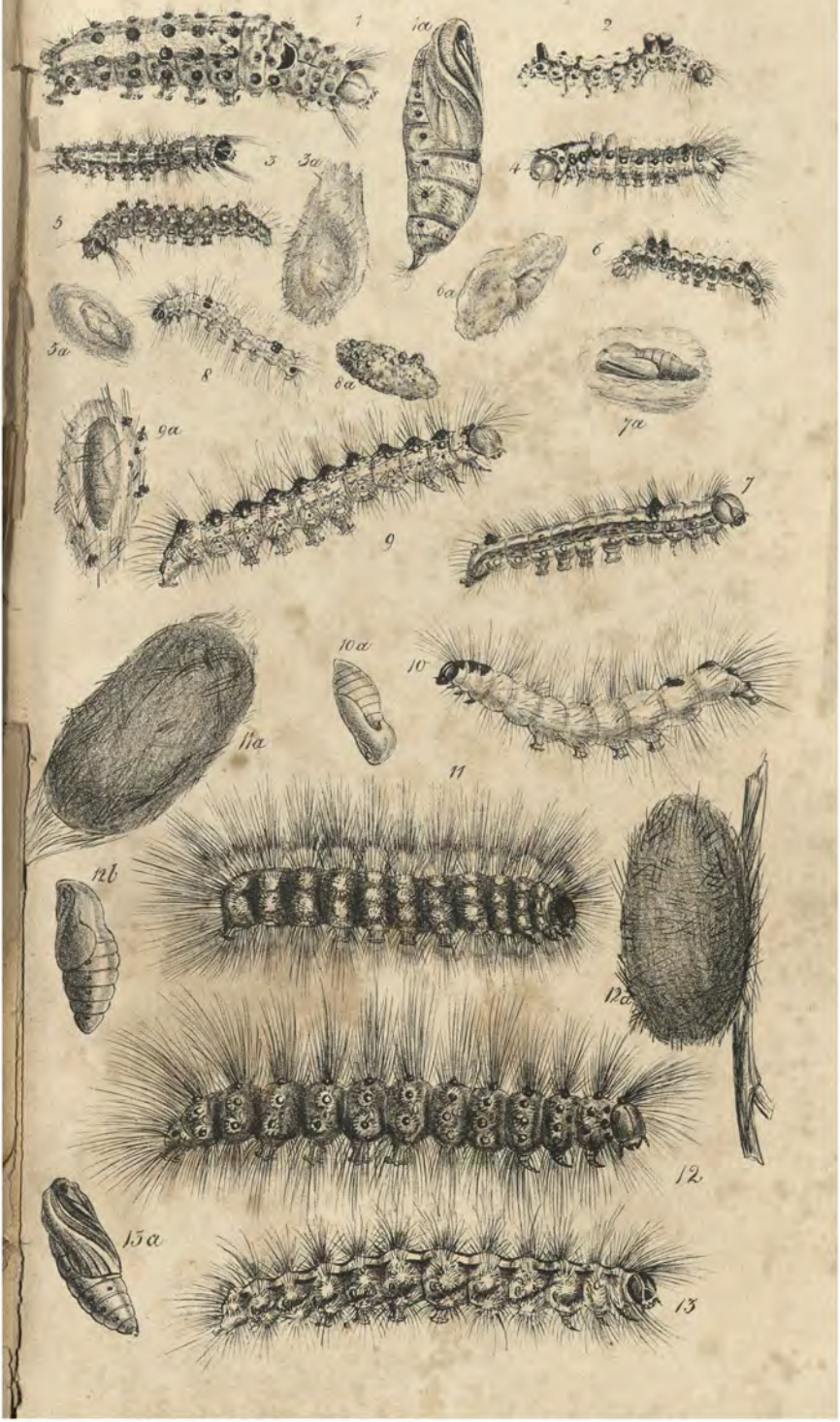

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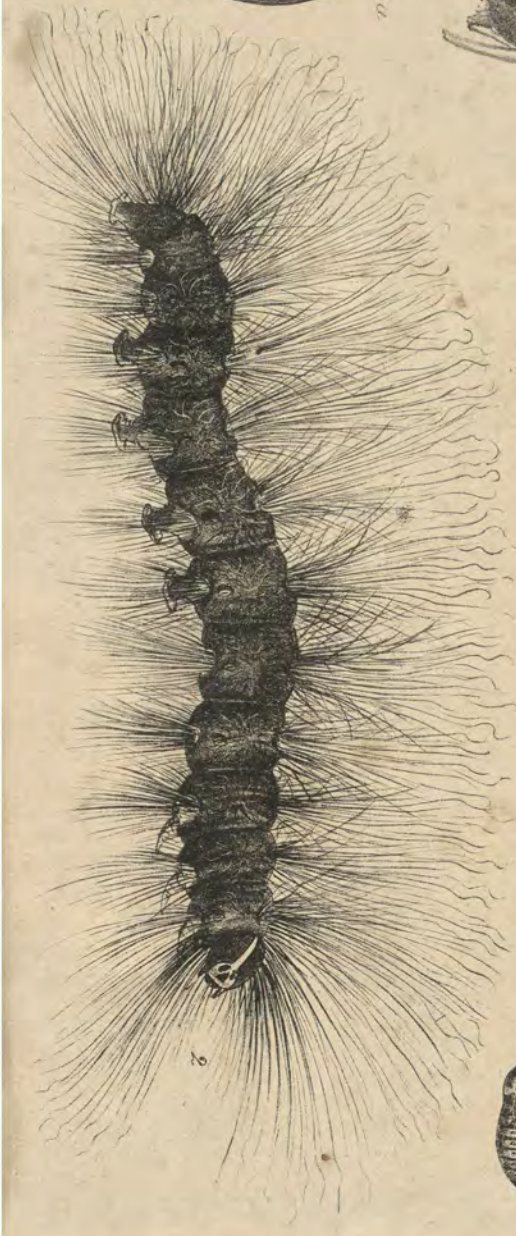

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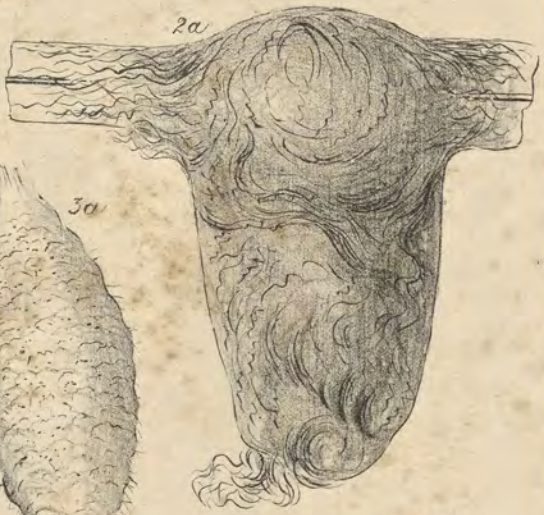

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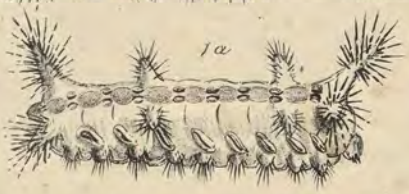
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12

13

13a

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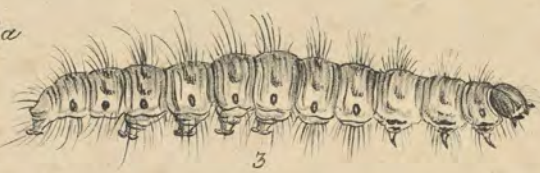
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PLATE VII A

C. H. Ford.

W. West imp.

PLATE VIII A.

G.H.Ford.

W.West imp.

PLATE IX A

C.H.Ford.

W.West imp.

PLATE XA.

G.H.Ford.

W.West imp.

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G. H. Fox L.

W. West imp.

PLATE XII. A.

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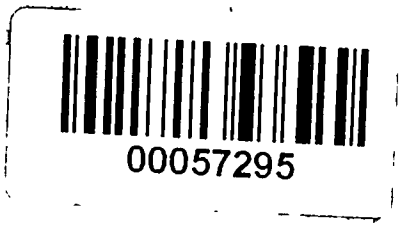
W. West imp.

PLATE XIII A.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